

## MULTIPLE FACES OF CHANGES IN 5600/5500 CAL. BC ANATOLIA AND THRACE

Özlem Çevik and Burçin Erdoğan

### **Abstract**

*5600/5500 cal. BC witnessed major cultural transformations or abrupt changes in virtually all regions of Anatolia and Thrace, most notably pottery production, subsistence patterns, architecture and symbolic expression. By surveying both old and recent evidence from central and western Anatolia, and Thrace, this article aims to make a comparative analysis of the cultural change in the wider region. This study ultimately claims that the degree of these changes is varied from one region to another, and the material culture of this transitional period is eclectic in nature.*

### INTRODUCTION

5600/5500 BC in Anatolia shows significant changes both in the material aspects of the cultural life and in the society itself. Changes occurred in pottery production, subsistence economy, settlement organization and building plans. Significant social changes around 5500 cal. BC are also reported in the Balkans. This period is characterised by the appearance of dark burnished ware, the so-called process of “Vinčaization” (Özdoğan 1998). Changes around 5500 cal. BC are also reported in a large part of Europe (Shennan 2018). From 5600/5500 BC central Europe was populated by farmers. Farming communities were established in many parts of central Europe, from Transdanubia in Hungary and Austria to some regions of Germany and Poland (Bogucki 2001). There are also changes in the settlement patterns, subsistence economies, and pottery traditions in some regions of Greece immediately after 5500 cal. BC (several articles in Dietz *et al.* 2018). This period is also marked by the Halaf-Ubaid transition in northern Mesopotamia (Campbell and Fletcher 2010). It is not clear whether changes were due to conflict, drought or famine, or some other factors. No rapid climate change occurred in 5600/5000 cal. BC, but more information regarding the local climate and environment is needed (Flohr *et al.* 2015). Although ancient human DNA research is in its infancy, early results show population change in Anatolia and population movement towards central Europe (e.g. Mathieson *et al.* 2018; Lazaridis *et al.* 2016; Hofmanova *et al.* 2016).

This paper aims to examine changes in the material culture of Anatolia and Thrace during 5600/5500 cal. BC. In some regions of Anatolia as well as Thrace material cultural changes start right after 5500 cal. BC, while in other regions of Anatolia this process starts about 5600 cal. BC. On the other hand, one can state that some changes have already begun around 5700 cal. BC when most of the sites were abandoned in Anatolia. First the material evidence before and after this transitional period in every region, from Central Anatolia through Thrace, will be separately discussed, then the changing aspects of material culture in each region will be comparatively analysed (Fig. 1-2). Ultimately the importance of the period will be highlighted by showing the eclectic nature of this transitional period in a wider region.



Fig. 1. The sites mentioned in the text.

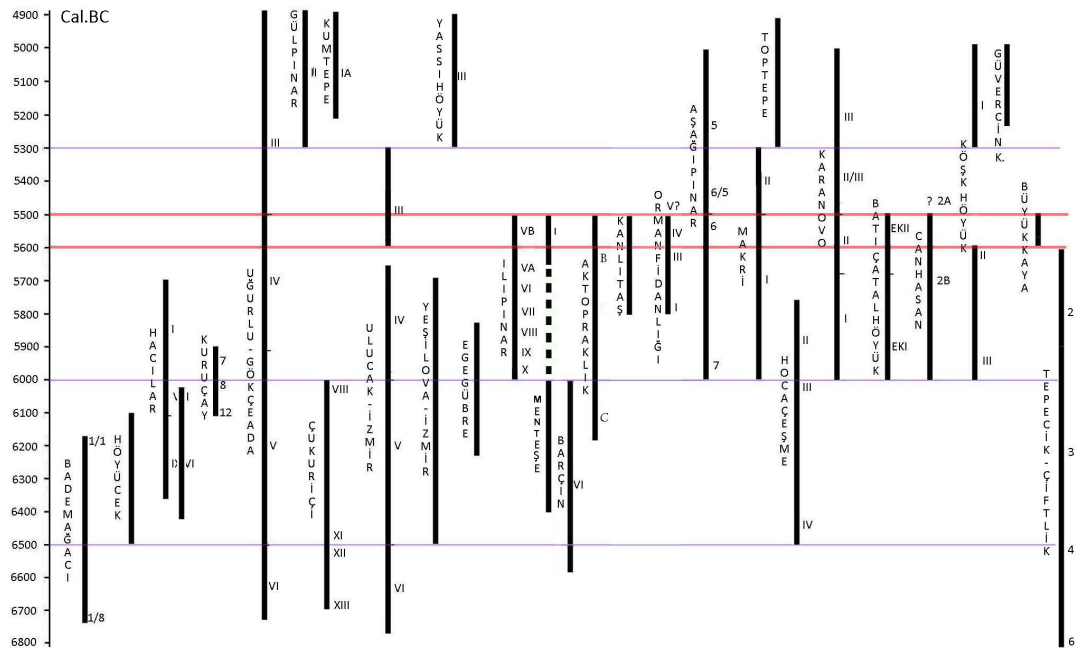


Fig. 2. Comparative chronological table.



## ARCHAEOLOGICAL EVIDENCE

**North-West Anatolia**

Evidence from two sites – Ilıpınar and Aktopraklık – indicates substantial changes in material culture around 5600 cal. BC. The previous period is characterized by linear arrangements of agglomerated mud-brick and mud-slab buildings at both sites (Fig. 3). Settlement patterns may indicate organized societies. Aktopraklık B and Ilıpınar VB are marked by changes in architecture, subsistence economy, and pottery assemblages. The semi-subterranean architecture of both sites bears no resemblance to previous phases. Post holes along the perimeters of the huts indicate wattle-and-daub doomed roofs. Nine 8-12 m<sup>2</sup> semi-subterranean oval huts at Ilıpınar were furnished with earthen benches, hearths, ovens, and grinding installations (Roodenberg and Alpaslan-Roodenberg 2013). Large storage vessels with a variety of charred plant seeds were also found in these huts. The absence of abundant occupation rubbish and storage of conspicuously cleaned seeds that were kept for sowing later in the year led researchers to interpret Phase VB as a seasonal settlement (Roodenberg 2011). However, these huts are thought to have been as distant satellites to a settled village rather than reflection of a transition to a transhumance (Roodenberg 2012). Fourteen 8-12 m<sup>2</sup> semi-subterranean oval huts at Aktopraklık consist of domed ovens and raised platforms (Karul 2017). However, the degree of change at around 5700/5600 calBC cannot be understood in Menteşe Höyük, located very close to Ilıpınar, as the mound was entirely deserted after 6000 BC for a few centuries (Fig. 2). All is known about the occupational layers of Menteşe dating to 5700/5600-5500 (Stratum 1) are the remains of an oven, a fireplace, drainage ditches and some burials (Roodenberg 1999; Alpaslan-Roodenberg 1999; Roodenberg *et al.* 2003).

There is apparently partial change with regard to pottery manufacture methods in Ilıpınar VB. Next to old forms new forms and decorations are attested (Fig. 4). Dark burnished rippled pottery with tall necks is characteristic (Thissen 2008). Although plates with ripple decoration on thickened rims from Menteşe are very similar to those found in Ilıpınar VB tall-necked jars are not known from the former settlement (Roodenberg 1999). Pottery also changed in Aktopraklık B. It is characterized by well burnished black, grey and brown mottled ware with tall or short necked globular jars and rounded or “S” shaped bowls (Alpagut 2016).

Although faunal remains of Ilıpınar VB are similar to that previous phase, domestic cattle increases exponentially and pigs decrease rapidly (Buitenhuis 2008). Wild species such as wild boar, red deer, roe deer, and fallow deer are also attested. Faunal remains of Aktopraklık B are also similar to previous phases. Cattle were the most dominant species. Aktopraklık B is also marked by a slight increase in wild species, especially red deer and wild boar. Roe deer appears at the first time (Alpagut 2016). It seems that agriculture played an important role in subsistence economy. On the other hand, the ubiquity of wild fruits increased in this period. Finds of wild pear (and apple) fruits were noted in Aktopraklık B while nuts and berries were noted in Ilıpınar VB (Alpagut 2016, Cappers 2008).

Excavation at the site of Orman Fidanlığı in the Eskişehir region shows that the 5600/5500 cal. BC transition is not well understood in this region. Excavation at the con-

temporary site of Kanlıtaş suggests that Orman Fidanlığı I-IV dates to ca. 5800-5500 cal. BC (Şahin 2014: 18). No dates are available for the following layer V. The stratigraphic evidence seems questionable and there are no significant changes in pottery manufacture and forms. The common pottery is dark burnished with some painted and stab-and-drag decorations (Efe 2001). Tall or short necked globular jars and rounded or “S” shaped bowls bear only general similarities with Aktopraklık and Ilıpınar VB. Marble bracelets from Orman Fidanlığı (II-V), Kanlıtaş, and Aktopraklık (cemetery area) suggest their production in the region appears to have been started around 5800 BC (Efe 2001, Karul 2017, Baysal *et al.* 2015).

### The Lake District

The most striking changes come from the Lake District region. Hacılar I was destroyed by fire around 5700 cal. BC (Mellaart 1970: 76) and it was abandoned and never re-occupied (Thissen 2010). Kuruçay 7, contemporary to Hacılar I, was also abandoned and no traces of settlements were discovered in the Lake District until the 4<sup>th</sup> Millennium BC (Duru 2008; Vandam 2015). Surface surveys have not yet been able to provide evidence to fill the gap.

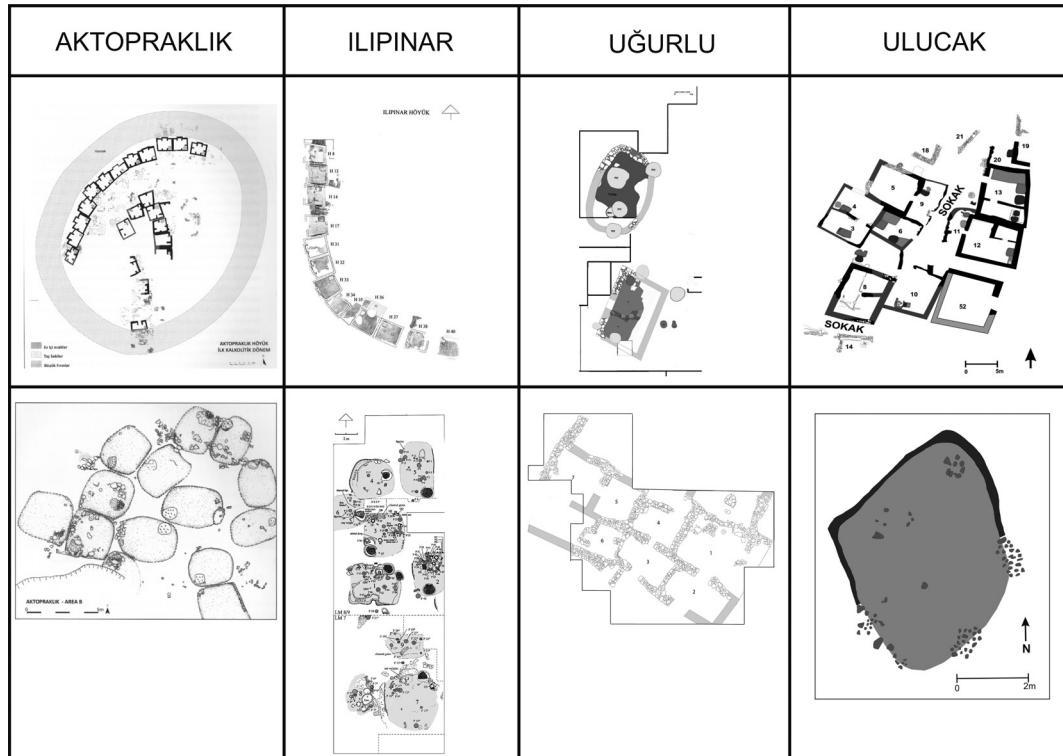


Fig. 3. Architecture and settlement layout of the sites dating before and after 5600/5500 cal BC.

## The Northern Aegean

In the northern Aegean, Uğurlu on the island of Gökçeada and Makri in Greek Thrace are major sites that date to the 5500 cal. BC transition. Uğurlu Phase III started at 5500 cal. BC with cultural elements fully developed around 5300 cal. BC. Phase III is characterized by changes in plan and construction techniques of buildings. One-roomed buildings with mud brick on stone foundations were found in previous phases. The organization of settlement and the architectural structure of buildings were advanced in Phase III (Erdoğu 2014; 2018). Multi-roomed large buildings were made from dry-stone walls (Fig. 3). There are no abrupt changes in pottery assemblages, lithic technology, and finds such as figurines. The pottery from the earlier period is lustrously burnished and thin-walled. Red-slipped black ware is dominant. Decoration is rare but the most characteristic decoration technique is impresso. White-on-red and red-on-black painted sherds were also attested. New forms and decorations appeared in the Phase III pottery, but some special forms such as boxes and vessels with ear-like projections (eared-pots) and decorations such as impresso continued. Vertically placed long, tube-like, perforated lugs also continued. New pottery elements included carinated large bowls with a diameter up to 40-50 cm, button-like or horned handles, and rippling decoration (Fig.4). Petrographic analysis shows that there is a continuous use of locally available clay in the manufacture of pottery at Uğurlu through all periods (Müller and Kiriati 2018). On the other hand Phase III pottery is coarser than previous phases and sherds more frequently have additional components. The analysis of the lithic material from Phase III and the earlier Phase IV suggests no important differences (Guilbeau 2017). Acrolithic figurines with a straight body and exaggerated buttocks first appeared around 5800/5900 cal. BC and continued after 5500 cal. BC, while a number of marble bracelets are only found after 5500 cal. BC.

Subsistence economy at Uğurlu was based on farming, herding, and hunting. There is also evidence for fishing and mollusc gathering. The faunal assemblages from Uğurlu are dominated by sheep, goats, and cattle. Among the three livestock species, caprines seem to be the primary focus of pastoral economy, as they are represented in a much higher proportion (Atıcı *et al.* 2017). In Phase III, the exploitation of sheep and cattle visibly decline. Uğurlu III is also marked by a slight increase in fallow deer and decrease in red deer (Atıcı *et al.* 2017). Wild boar disappears at that time. Agricultural products are relatively unchanged in Phase III. Changes in material culture at Uğurlu, though gradual, reflect a changing society.

5500 cal. BC was a time of transition between Makri I and II (Efstratiou *et al.* 1998). Although, Makri I was destroyed by fire, no changes occurred in buildings techniques. Wattle-and-daub buildings with ovens, fire places, platforms, and storage pits were discovered in Makri II (Efstratiou *et al.* 1998). Both Makri I and II pottery is dark burnished. Makri II is marked with changes in form and decoration techniques. Sharp carinated shapes, rippling decoration, and horned handles are characteristic as pottery shows some Karanovo III influences (Efstratiou *et al.* 1998). The lithic material from Makri I and Makri II do not show important differences. Subsistence strategies are also the same between Makri I and II (Efstratiou *et al.* 1998).

In addition, none of the sites from the Troas region date to 5600/5500 cal. BC. New settlements, such as Kumtepe and Gülpınar appear in the Troas region around 5300/5200 cal. BC (Blum 2014; Takaoğlu 2015).

## Thrace

Karanovo is the key site in east Bulgarian Thrace with Karanovo II marked by the first appearance of dark burnished pottery around 5700 cal. BC. The first samples of rippling decoration and horned handles appear in Karanovo II. Excavations at site show that a hiatus between Karanovo II and III is not attested. Phases of Karanovo II-III and Karanovo I-III<sup>1</sup> for the transition to Karanovo III culture have been identified (Nikolov 2003). Transitional phases were dated to 5500-5400/5350 cal. BC (Boyadzhiev 2009). There is a gradual development in pottery. Large carinated bowls, internally thickened rimmed dishes, tall necked jars, horned handles, rippling decoration are characteristic. Similar building techniques (wattle-and-daub) are known from all phases. Differences in subsistence economy between Karanovo II and transitional phases have not yet been published.

A transitional phase (Phase 5/6) dated to 5500-5300 cal. BC, has also been excavated at Aşağı Pınar in Turkish Thrace. In Phase 5/6, some semi-subterranean huts and a palisade wall were discovered (Eres *et al.* 2015). The transitional phase is characterised by the appearance of dark burnished ware, but most of the pottery ware types continued from the previous Phase 5. Carinated shapes, rippling decoration, and horned handles suggest some Karanovo III influences in the pottery. Nothing is known of the faunal and floral remains from transitional phase of Aşağı Pınar.

Western Bulgarian Painted Pottery culture, which is characterized by red, black, brown and polychrome painted potteries, comes to end around 5500 cal. BC. New cultures have significant differences in pottery manufacture, forms and decorative techniques. Distinctive Vinča elements, such as dark burnishing, carinated and tall naked vessels, and rippling decoration are numerous (Boyadzhiev 2009).

## Central Anatolia

The mid-sixth millennium BC marks a major break in central Anatolia. Almost all prosperous settlements of the previous period such as Çatalhöyük, Köşk Höyük, Can Hasan 1 and Tepecik/Çiftlik were abandoned and the region was not resettled until 5300/5200 cal. BC as has been shown by Köşk Höyük and Güvercinkaya (Marciniak and Czerniak 2007: 126). The West Mound at Çatalhöyük, on the Konya Plain, was divided into two phases based on the pottery record. (Mellaart 1965). The so-called Early Chalcolithic I is dated to 6000-5700 cal. BC and the Early Chalcolithic II was dated to 5700-5500 cal. BC (Orton *et al.* 2018). Early Chalcolithic I of Çatalhöyük West was marked by extensive changes in the architectural and craft tradition, mortuary practices, art and symbolism. It is characterized by painted pottery and two storey mud brick buildings with internal buttresses. No architectural structures except some large ritual pits and large ovens were found in Early Chalcolithic II (Erdoğan in press). Çatalhöyük West is roughly contemporary to Canhasan 2B. Çatalhöyük West was abandoned around 5500 cal. BC and never re-occupied. Canhasan 2A immediately follows Layer 2B

<sup>1</sup> “Karanovo II-III pottery assemblages shows the transition from Karanovo II to Karanovo III. Karanovo I-III is found only in Tell Kazanlık, where Karanovo II culture does not develop” (Nikolov 2003: 24).

and was excavated in a limited area. Layer 2A buildings were superimposed onto Layer 2B buildings, and were made with stone foundations and mud-brick walls. Crème-on-red and black/brown polychrome wares were the dominant ware for Layer 2A. Dating Canhasan 2A is problematic. A single sample gives a date ca. 5700 cal. BC, as early as Layer 2B (Erdoğu *et al.* 2003). Canhasan 2A style pottery has been found at Köşk Höyük and Güvercinkaya in the Cappadocia region. Both sites date to ca. 5300/5200-4900/4800 cal. BC. Schoop (2005a) suggests a date for Canhasan 2A between 5500-5300 cal. BC. It is not certain whether Canhasan 2A is dated to the 5500 cal. BC transitional period or not.

Although Tepecik/Çiftlik in the Cappadocia region was abandoned before 5500 cal. BC, it is interesting to note that certain changes were recorded at the site right before the mid-6<sup>th</sup> millennium BC (Özbudak 2016). Similar to the case known from Çatalhöyük EC II, the latest two phases of Tepecik/Çiftlik (2.3 and 2.4) are represented by some pits. It has been suggested that the pottery tradition of the latest phase of pits (2.4) is completely different from the earlier periods. In this latest phase, relief and painted decoration disappeared and larger bowls, of which their diameters were up to 30 cm, became characteristic. No absolute dates were available from these pits although the changes at the latest phase are tentatively placed around 5600-5500 BC. However, one C14 date from Tepecik/Çiftlik Phase 2.2 provides a range of 5800-5850 cal. BC. The latest phase at the site (Çakan 2013, Özbudak 2016) can be, at least, placed later than this date.

It is of interest that while major sites in the southern part of the central Anatolia were either abandoned or reveal temporary evidence for occupation at the sites between 5700-5500 BC, the northern part of the region witnessed the earliest evidence for occupation around the same time. The small settlement found in the Upper Plateau in Büyükkaya (Boğazköy) is dated to around 5600-5500 cal. BC (Schachner 2012). The houses at the site are thought to have been stood on plank covered timber frames and surrounded by a ring of storage pits. Among the characteristic features of the pottery are dark surface colours of grey and brown, with careful burnishing. Large bowls with splaying walls and deep bowls with a diameter up to 60 cm are most notable (Fig. 4). A few marble bracelets from the site are also worth mentioning (Schoop 2005b).

### Central-West Anatolia

The first quarter of the 6<sup>th</sup> millennium BC is known from the settlements in and around the İzmir region. The only surviving site after 5700 BC in this region is Ulucak while Çukuriçi, Yeşilova, Ege Gübre, and Dedecik-Heybelitepe were all abandoned sometime between 5900 and 5700 cal. BC (Çevik 2018, Horejs 2012; 2017, Derin 2012, Herling *et al.* 2008). None of these settlements were re-occupied until the 5<sup>th</sup> or 4<sup>th</sup> millennium BC. The early sixth millennium BC (6000-5700 BC) sites are characterized by substantial rectangular buildings, although building techniques and the layout of settlements differ. Monochrome wares dominated by red-reddish brown surfaces are common in all sites while the amount of decorated vessels including impresso, some paint (red-on-cream or cream-on-red) and relief never exceeds one percent of the total pottery assemblage. Among the common shapes are S-shaped open vessels and holemouth jars generally with vertically placed tubular lugs. Clay



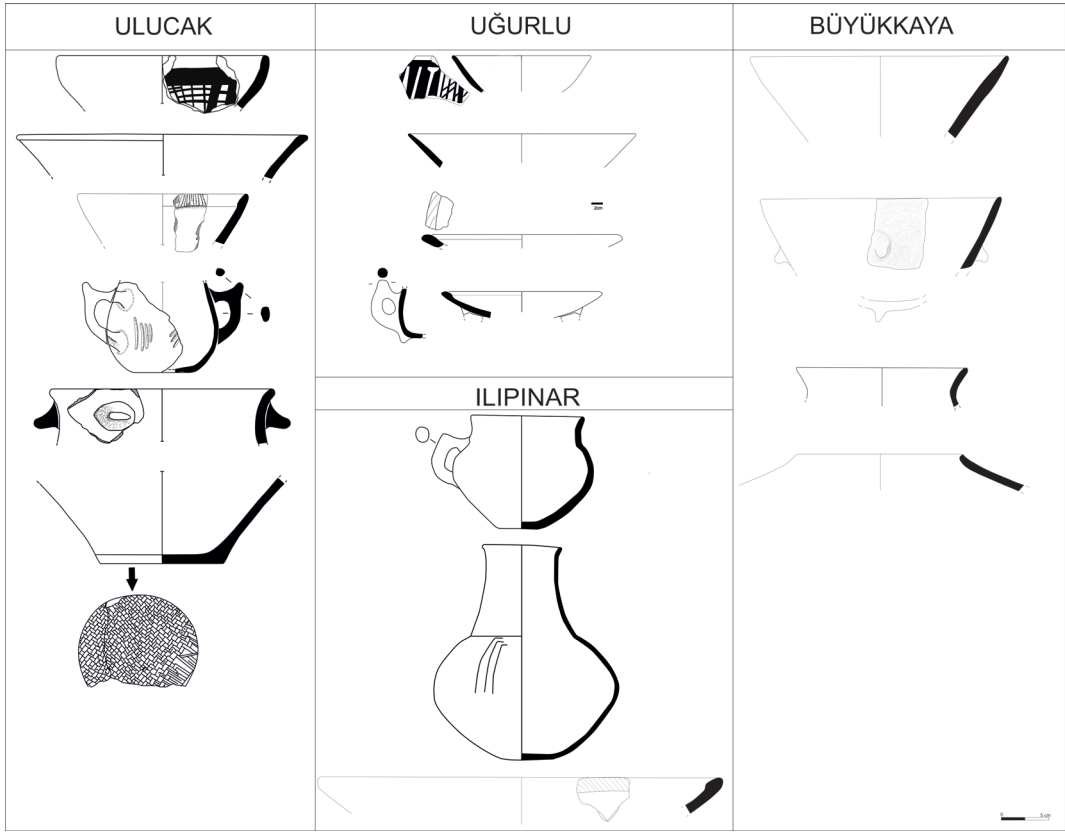


Fig. 4. Ceramic examples from Ulucak, Uğurlu, Ilıpınar and Büyükkaya dating to 5600/5500 cal. BC.

images consisting of seals, anthropomorphic vessels, and figurines became an important component of the symbolic world in the region, especially after 6000 BC. Clay figurines with exaggerated and pendulous breasts and almond-eyes similar to those found in Hacılar are characteristic of this period.

In Ulucak an abrupt change in almost every aspect of material culture occurred at around 5600 cal. BC although above-mentioned material evidence can be followed until around 5670 cal. BC (Çevik 2018). Substantial buildings with mud-brick walls on stone foundations in Ulucak IV were replaced by hut-like pisé buildings in Ulucak III (Fig. 3). The pottery assemblage from Layer III marks a crucial change from surface treatment through shapes. Red slipped burnished wares with thin walls of the previous period disappear while dark surface colours including brown, grey, and greyish-black became dominant. Ceramics have in general thicker walls and a coarser appearance. Well burnished wares represent less than one percent of the pottery assemblage although burnishing is seen on almost all vessel types. Among the newly emerged decoration techniques are rippling, pattern burnishing, incisions and incrustation (Fig. 4-5). However, rippling and pattern burnishing are the most common decoration types. Tubular lugs of the previous period disappear and various type of lugs and handles became widespread including horizontally placed handles with or without piercing, knobs, and horned

handles. The most striking change in pottery forms in Ulucak III is large bowls and dishes with a diameter up to 50 cm. The latter are represented by splay bowls and bowls and dishes with internally thickened rims. Petrographic analysis of pottery both from Ulucak IV and III clearly shows that different clay sources were exploited in each period (Müller and Kriatzi 2018). A comparative study of chipped stone technologies suggests several changes between the two levels at the site (Kayacan and Altınbilek 2018). On the contrary to the earlier period, pressure technique was less applied and retouch has not been attested in Ulucak III. Although obsidian originated from Melos in both periods, the amount of obsidian sharply decreased after 5600 cal. BC. Clay seals of the earlier period disappeared, while only a few clay figurines have yet been found in Ulucak III. However, a clay figurine with large buttocks and smaller breasts differs from earlier examples, and display close similarities to those found in the Balkans. It is interesting to note that numerous marble bracelets from Ulucak III first appeared after 5600 cal. BC. In contrast to the earlier periods no botanic remains have yet been found from Ulucak III contexts. However, there seems to be no major change in the faunal remains, as ovicaprids are the most dominant species in both periods (Pişkin 2018). The only difference from the earlier period is the decrease of fallow deer after 5600 cal. BC.

#### SYNTHESIS: ABRUPT CHANGE VS CULTURAL TRANSFORMATION

The current data shows that there are large-scale, region-wide changes at the time of 5600/5500 cal. BC in Anatolia and Thrace, and it is possible to conclude that these changes are not homogeneous. At the beginning of 5600/5500 cal. BC the number of settlements decreased in Anatolia. In addition, some sites were already abandoned around 5700 cal. BC (Fig. 2). In this time period there is some evidence for large-scale collapse or decline in the Lake District region of Anatolia. Some sites like Uğurlu, Makri, and Karanovo in the northern Aegean and the eastern part of Thrace respectively that continue throughout the transition period do not show evidence for an abrupt change. Some regions such as north-west and central-west Anatolia show fundamental changes in architecture, subsistence economy, pottery tradition, and symbolism.

#### Architecture

5600/5500 cal. BC in Anatolia and Thrace was accompanied by architectural changes in most regions (Fig. 3). Semi-subterranean oval huts were discovered in north-west (Ilıpınar, Aktopraklık) and central-west Anatolia (Ulucak). In both regions makeshift architecture is different from the previous more substantial, well-organized architectural traditions. Huts were not uniformly furnished. It seems that each settlement had different needs. Ilıpınar huts contained earthen benches, hearths and ovens. Grinding installations lie near ovens. Aktopraklık contained domed ovens and raised platforms while only a hearth was found in the Ulucak hut. Contradictory, semi-subterranean oval huts exist in Aşağı Pınar, Turkish Thrace (Eres *et al.* 2015). They did not contain hearths or ovens but only animal bones, indicating some other function (Özdoğan, E. 2009). Between 5700/5600 and 5500 cal. BC no architectural structures except some large pits were found in Çatalhöyük West and Tepecik/Çiftlik of central Anatolia.

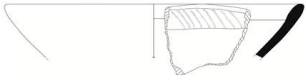



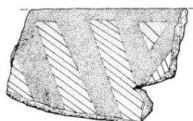
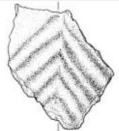

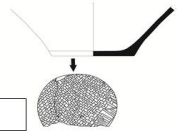
	ILPINAR VB	ULUCAK	AKTOPRAKLİK	UĞURLU	AŞAĞI PINAR	KARANOVO	BÜYÜKKAYA	CANHASAN 2A	ÇATALHÖYÜK ECII	ORMAN FIDANLIĞI V
 Internally thickened rim bowls	X	X		X	X	X				
 Large bowls with splaying walls	X	X	X	X	X	X	X	X	X	X
 Tall Necked Jar	X		X	X	X	X				X
 Horned Handle		X		X	X	X			?	
 Pattern Burnish		X		X						
 Rippling	X	X		X	X	X				X
 Painted								X	X	X
 Mat impressed base		X		X	X		X			

Fig. 5. The comparative table of major pottery types and decorations between 5600-5300 cal. BC.

With its advanced architectural traditions, Uğurlu is different from other sites. In 5500 cal. BC, local characteristics gradually emerged with large building sizes and distinctive settlement planning. Moreover, wattle-and-daub architecture tradition continues for a long period of time in the Balkans.

## Pottery

5600/5500 cal. BC in Anatolia and Thrace is marked by changes in pottery traditions, but local variations are attested. Although western Anatolian, Thrace and northern Aegean pottery have close similarities, other regions show more local features (Fig. 4-5).

Ulucak excavations show a sudden disappearance of red slipped, thin-walled Neolithic pottery and an appearance of dark burnished much coarser wares. Significant differences are attested in pottery manufacture, forms, and decorative techniques. Large bowls and dishes, especially thickened rim inside and splaying walls are common forms. The most characteristic decoration technique is rippling and pattern burnish. Horned handles are also characteristic. Bowls and dishes with ripple decoration rims and horned handles have been attested in the Balkans starting with Karanovo II. Thus, Ulucak shows that pottery tradition has changed in both central-west Anatolia and Thrace more or less at the same time.

In east Bulgarian Thrace, dark burnished pottery with rippling decoration and horned handles appear as early as 5700 cal. BC. Makri and Uğurlu excavations show that dark burnished pottery is a characteristic feature for the northern Aegean Neolithic and dates back to 5900 cal. BC. Starting at 5500 cal. BC pottery become coarser and new forms (large carinated bowls and dishes, horned handles) and decorations (ripple) are seen. Some significant elements belonging to the earlier pottery traditions of Uğurlu, such as boxes, vessels with ear-like projections, and tube-like perforated lugs still continued. It has been suggested that some forms and techniques known first from the preceding Phase VA are continued into Phase VB at Ilipınar (Thissen 2008). A new dark burnished rippled decoration pottery is identical to the pottery of late Karanovo II, or the transition to Karanovo III. Such decorations do not exist in Aktopraklık. A sudden appearance of dark pottery at Aktopraklık bears some similarities with Ilipınar. The thickened rim bowls do not exist in Aktopraklık and the tall necked jar, which is characteristic for Ilipınar VB, rarely occurs at Aktopraklık. Karanovo type horned handles do not exist in Aktopraklık or Ilipınar.

Central Anatolian pottery dated to the transitional period is different. Only similarities exist in large bowls/dishes with diameters up to 30 cm. Decoration techniques such as painted and stab-and-drag decoration are also different than other regions.

## Subsistence

Agricultural products, animal husbandry and hunting, all played an important role in the mixed subsistence economy. This period is marked by a slight increase in wild species at almost all sites except Ulucak, indicating that hunting was part of their subsistence strategy. Regional differences in faunal remains are also attested. Cattle were the most important species in north-west Anatolia, while sheep and goat were dominant in rest of the region.

Wild species of boar, red deer, roe deer, and fallow deer were found in north-west Anatolia while roe deer was absent in western Anatolian and northern Aegean sites. Uğurlu is marked by an increase in fallow deer, decrease in red deer, and absent in wild boar. On the other hand, fallow deer decreases in Ulucak. It seems that agriculture played an important role in the subsistence economy at all sites. The gathering of wild fruit, nuts, and berries were found only in certain regions.

### Symbolic Expression

Figurines were a symbolic expression for past societies. Figurines from Uğurlu continue directly from the previous Phase IV. Uğurlu figurines are specific to the island; they consist of a straight body with exaggerated buttocks and arms making a motion toward the front of the body, curving symmetrically to come at a rest around the abdomen (Atakuman *et al.* 2018).

Ulucak is marked by changes in figurines, with the disappearance of the Hacilar-type figurines with exaggerated and pendulous breasts and almond-eyes, and appearance of Balkan-type figurines with a straight body and exaggerated buttocks (Çevik 2018). In Thracian regions, cylindrical headed and tall necked figurines of Karanovo III seem to first appear during the transitional period (Özdoğan, E. 2009).

Polypod vessels and eared-pots become popular in Uğurlu Phase III, which are for the first time encountered in the earlier Phase IV (5900-5500 cal. BC) in small quantities. Polypod vessels also become popular in Thrace, but it disappears in the Anatolian context.

Marble bracelets are objects of considerable symbolic importance. They appear around 5800/5700 cal. BC in north-west Anatolia. A marble bracelet workshop was found in Kanlıtaş (Baysal *et al.* 2015). Marble bracelets are also attested in Büyükkaya, Ulucak, and Uğurlu after 5600 cal. BC.

### CONCLUSIONS

From this initial synthesis, we can draw the following conclusions:

1. It seems evident that during 5600/5500 cal. BC a dramatic shift is seen throughout the regions of Anatolia and Thrace, but not in any regular manner. However, archaeological evidence shows that the roots of certain changes go back as early as 5700 cal. BC. In this period, the Lakes District region was unoccupied until the 4th millennium BC, while some of the sites in central and central-west Anatolia were abandoned around 5700 cal. BC. Although occupation at some sites such as Çatalhöyük West and Tepecik-Çiftlik continued until 5500 BC, the character of habitation is rather weak. At 5700 cal. BC, the painted ware tradition in Thrace also revealed a major shift to the black burnished ware tradition. On the other hand, the time period of 5700-5600 cal. BC in Aktopraklık and Ilıpınar in north-west Anatolia showed very organized settlement layout although dramatic changes are also recorded at these two sites after 5600 cal. BC. Both Uğurlu and Makri indicate that the northern Aegean showed a different development, where no certain changes were present up until 5500 cal. BC.



2. As it has already been mentioned above, the abrupt change that occurred after 5600/5500 cal. BC was not homogenous. It seems that there is a greater cultural affinity between Thrace and western Anatolia, while cultural similarities with central Anatolia are quite limited. The most striking similarity between Thrace and western Anatolia is rippling decoration on internally thickened rimmed bowls/dishes and horned handles. This connectivity is also supported by the first appearance of Balkan-type figurines at Ulucak. However, the pottery from Ulucak is different from the north by the common use of pattern burnished decoration. Furthermore the closest parallels of hut-like structures in Ulucak are seen in Aktopraklık B and Ilıpınar VB in north-west Anatolia. Although Ilıpınar VB pottery is different than other regions, internally thickened rimmed bowls/dishes and tall necked jars are quite similar to late Karanovo II and the early III. It seems there are only general similarities between Aktopraklık and Ilıpınar VB pottery tradition. While tall necked jars are seen at both sites, ripple decoration and internally thickened rimmed bowls/dishes are not recorded in Aktopraklık. In addition, horned handles are not introduced in this region. In fact, genuine horned handles did not penetrate either north-west Anatolia or central Anatolia, although this type of handle is widespread in Anatolia after 5<sup>th</sup> millennium BC (e.g. Orman Fidanlığı, Büyük Güllücek, İkiztepe, Limantepe etc).

Dark burnished pottery and large bowls/dishes with greater diameters up to 50 cm are peculiar to the time period 5600/5500 BC from central Anatolia through to western Anatolia. However, central Anatolia differed from the west by its decoration techniques such as painted (Çatalhöyük) and stag-and-drag decoration (Gelveri, Büyükkaya). It seems these decorative techniques penetrated the Eskişehir plain in the west as has shown by Orman Fidanlığı V. What makes direct contact between west, north-west and central Anatolia is marble bracelets. These items are attested in Büyükkaya, Ulucak, and Uğurlu after 5600 cal. BC, and are dated to the earlier horizon in Aktopraklık, Orman Fidanlığı and Kanlıtaş. Thus, the idea of production or use of marble bracelets in the west may have diffused from this region.

3. In Anatolia there is no period which had abrupt changes like this transitional period. This period is conventionally termed the beginning of Middle Chalcolithic period. However, it is increasingly becoming clear that 6000 BC is no longer a cultural hallmark that distinguishes important changes. There is now a tendency to accept the gradual changes and transformations of the first quarter of the 6<sup>th</sup> millennium BC. In contrast, changes starting from 5700 cal. BC can be attributed to major cultural breaks, and thus it is this time period for us to suggest the beginning of Chalcolithic period of Anatolia. The eclectic nature of cultural elements even within the same region in this transitional period, however, prevent us to suggest an origin of this phenomenon. Leaving the directions of these changes either from Anatolia to Thrace or vice versa aside, the dynamics of these abrupt changes in a wider region appear to us to be more of important issue to be investigated.

#### ACKNOWLEDGEMENTS

We wish to thank Jarrad W. Paul for his kind corrections to the language in this paper. Ulucak and Uğurlu projects are supported by the Turkish Ministry of Culture and Tourism, and also by Turkish Science Foundation (TÜBİTAK project no: 114K271).

## BIBLIOGRAPHY

- Alpagut, C., 2016 — Kuzey Batı Anadolu'da ilk Kalkolitik Dönem Sonunda Yaşanan Değişim: Aktopraklık Yuvarlak Planlı Yapılar Evresi Çanak Çömleği. İstanbul University, Unpublished PhD Thesis.
- Alpaslan-Roodenberg, S., and G.J.R. Maat, 1999 — Human skeletons from Menteşe Höyük near Yenışehir. *Anatolica* XXV: 37-51.
- Atakuman, Ç., H.C. Gemici, C. Karamurat, and B. Erdoğan, 2018 — Gökçeada-Uğurlu Höyük'te Bulunan Neolitik ve Kalkolitik Dönem Figürinler. *Arkeometri Sonuçları Toplantısı* 33 (1): 175-187.
- Atıcı, L., S.E. Pilaar Birch, and B. Erdoğan, 2017 — Spread of domestic animals across Neolithic western Anatolia: New zooarchaeological evidence from Uğurlu Höyük, the island of Gökçeada, Turkey. *PLoS ONE* 12(10): e0186519.
- Baysal, E., A. Baysal, A. Türkcan, and A. Nazaroğlu, 2015 — Early Specialized Production? A Chalcolithic Stone Bracelet Workshop at Kanlıtaş, Turkey. *Oxford Journal of Archaeology* 34(3): 235-257.
- Blum, S., 2014 — The Middle Chalcolithic Cultural Sequence of the Troad (Northwest Anatolia): Chronological and Interregional Assessment. In: B. Horejs and M. Mehofer (eds.), *Western Anatolia before Troy: proto-urbanisation in the 4<sup>th</sup> millennium BC?*, 125-156. Vienna.
- Bogucki, P., 2001 — Recent research on early farming in Central Europe. *Documenta Praehistorica* 28: 85-97.
- Boyadzhiev, Y. D., 2009 — Early Neolithic Cultures on the Territory of Bulgaria. In: I. Gatsov, and Y. Boyadzhiev (eds.), *The First Neolithic Sites in Central/South-East European Transect. Volume 1. Early Neolithic Sites on the Territory of Bulgaria*, 7-43. BAR International Series 2048, Oxford.
- Buitenhuis, H., 2008 — Faunal Remains from the Late Neolithic and Early Chalcolithic Levels. In: J.J. Roodenberg and S. Alpaslan Roodenberg (eds.), *Life and Death in a Prehistoric Settlement in Northwest Anatolia. The Ilıpınar Excavations, Vol. III*, 205-226. Leiden.
- Campbell, S. and A. Fletcher, 2010 — Questioning the Halaf-Ubaid Transition. In: R. Carter and G. Philip (eds.), *Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East*, 79-80. Chicago.
- Çakan, Y.G., 2013 — Tepecik-Çiftlik Son Neolitik Dönem Mimarisi. İstanbul University, Unpublished MA Thesis.
- Cappers, R., 2008 — Plant Remains from the Late Neolithic and Early Chalcolithic Levels. In: J.J. Roodenberg and S. Alpaslan Roodenberg (eds.), *Life and Death in a Prehistoric Settlement in Northwest Anatolia. The Ilıpınar Excavations, Vol. III*, 117-148. Leiden.
- Çevik, Ö., 2018 — What Follows the Late Neolithic Occupation in Central-Western Anatolia? A View from Ulucak. In: S. Dietz, F. Mavridis, Ž. Tankosić, and T. Takaoğlu (eds.), *Communities in Transition: The Circum-Aegean Area in the 5<sup>th</sup> and 4<sup>th</sup> Millennia BC*, 506-512. Oxford: Oxbow books.
- Derin, Z., 2012 — Yeşilova. In: M. Özdoğan, N. Başgelen, and P. Kuniholm (eds.), *The Neolithic in Turkey; Western Turkey, Vol. 4*, 177-195. İstanbul.
- Dietz, S., F. Mavridis, Z. Tankosić and T. Takaoğlu (eds.), 2018 — *Communities in Transition. The Circum-Aegean Area during the 5<sup>th</sup> and 4<sup>th</sup> Millennia BC*. Oxford: Oxbow Books.
- Duru R., 2008 — From 8000 BC to 2000 BC. Six Thousand Years of the Burdur-Antalya Region. Antalya, Suna-İnan Kıraç Research Institute on Mediterranean Civilizations.
- Efstratiou, N., M.P. Fuménal, C. Ferrer, D. Urem Kotsos, A. Curci, A. Tagliacozz, G. Stratouli, S.M. Valamoti, M. Ntinou, E. Badal, E. Madella, and K. Skourtoupoulou, 1998 — Excavations at the Neolithic settlement of Makri, Thrace, Greece (1988-1996): A preliminary report. *SAGVNTVM (PLAV)* 31: 11-61.
- Efe, T., 2001 — The Salvage Excavations at Orman Fidanlığı. A Chalcolithic Site in Inland Northwest Anatolia. İstanbul, Ege.
- Erdoğan, B., 2014 — Gökçeada Uğurlu Archaeological Project: A preliminary report from the 2011-2013 field seasons. *Anatolica* XL: 157-178.

- Erdoğan, B., 2018 — The Neolithic to Chalcolithic transition on the island of Gökçeada (Imbros). In: S. Dietz, F. Mavridis, Ž. Tankosić, and T. Takaoğlu (eds.), *Communities in Transition: The Circum-Aegean Area in the 5<sup>th</sup> and 4<sup>th</sup> Millennia BC, 367-372*. Oxford.
- Erdoğan, B., in press — Symbols at Çatalhöyük West Mound, Trench 8. In: P.F. Biehl, J. Rogasch, and E. Rosenstock (eds.), *The End of Çatalhöyük: The West Mound Excavations*. Los Angeles, Cotsen Institute of Archaeology Publications, University of California.
- Erdoğan, B., O. Tanındı, and D. Uygun, 2003 — Türkiye Arkeoloji Yerleşmeleri: C14 Veritabanı. İstanbul: Ege.
- Eres, Z., S. Hansen, E. Özdoğan, M. Özdoğan, H. Parzinger and H. Schwarzberg, 2015 — Das Kırklareli Project. Ein Forschungsüberblick anlässlich des 20 jährigen Jubiläums des Türkisch-Deutschen Gemeinschaftsprojekts. In: Ü. Yalçın und H.-D. Bienert (Hrsg.), *Anatolien – Brücke der Kulturen. Aktuelle Forschungen und Perspektiven in den deutsch-türkischen Altertumswissenschaften*, 131-146. Bochum, Bonn.
- Flohr, P., D. Fleitmann, R. Matthews, W. Matthews and S. Black, 2015 — Evidence of resilience to past climate change in Southwest Asia: early farming communities and the 9.2 and 8.2 ka events. *Quaternary Science Reviews* 136: 23-39.
- Hofmanová, Z., S. Kreutzer, G. Hellenthal, C. Sell, Y. Diekmann, D. Díez-del-Molino *et al.*, 2016 — Early farmers from across Europe directly descended from Neolithic Aegeans. *PNAS* 113(25): 6886-6891.
- Herling, L., K. Kasper, C. Lichter, and R. Meriç, 2008 — Im Westen nichts Neues? Ergebnisse der Grabungen 2003 und 2004 in Dedecik-Heybelitepe. *Istanbuler Mitteilungen* 58: 13-65.
- Horejs, B., 2012 — Çukuriçi Höyük, a Neolithic and Bronze Age settlement in the region of Ephesos. In: M. Özdoğan, N. Başgelen, P. Kuniholm (eds.), *The Neolithic in Turkey; Western Turkey*, vol. 4, 117-131. İstanbul.
- Horejs, B., 2017 — The Çukuriçi Höyük Research Project. In: B. Horejs (ed.), *Çukuriçi Höyük 1. Anatolia and the Aegean from 7<sup>th</sup> to the 3<sup>rd</sup> Millennium BC*, 11-21. OREA vol. 5, Vienna.
- Guilbeau, D., 2017 — Uğurlu chipped stones – a synthesis. Unpublished Tübitak Report (no. 114K 271).
- Karul, N., 2017 — Aktopraklık: Tasarlanmış Prehistorik Bir Köy. İstanbul, Ege.
- Kayacan, N. and Altınbilek, Ç., 2018 — Ulucak Chipped Stones. Unpublished Tübitak Report (no. 114K 271).
- Lazaridis, I., D. Nadel, G. Rollefson, D.C. Merrett, N. Rohland, S. Mallick, D. Fernandes, M. Novak *et al.*, 2016 — Genomic insights into the origin of farming in the ancient Near East. *Nature* 536: 419-424; doi: 10.1038/nature19310.
- Marciniak, A., and L. Czerniak, 2007 — Social Transformations in the Late Neolithic and the Early Chalcolithic Periods in Central Anatolia. *Anatolian Studies* 57: 115-30.
- Mathieson, I., S. Alpaslan-Roodenberg, C. Posth, A. Szécsényi-Nagy, N. Rohland, S. Mallick *et al.*, 2018 — The genomic history of southeastern Europe. *Nature* 555: 197-203; doi: 10.1038/nature25778.
- Mellaart, J., 1965 — Çatal Hüyük West. *Anatolian Studies* 15: 135-156.
- Mellaart, J., 1970 — Excavations at Hacilar. Edinburgh: Edinburgh University Press.
- Müller, N., and K. Kiriati, 2018 — Pottery traditions and innovation in Western Anatolia: Investigating the Neolithic/Chalcolithic transition through ceramic analysis. Unpublished Tübitak Report (no. 114K 271).
- Nikolov, V., 2003 — The Neolithic and Chalcolithic Periods in Northern Thrace. *TÜBA-AR6*: 21-81.
- Orton D., J. Anvari, C. Gibson, J. Last, A. Bogaard, Rosenstock, and P.F. Biehl, 2018 — A tale of two tells: dating the Çatalhöyük West Mound. *Antiquity* 92 363: 620-639.
- Özbudak, M.O., 2016 — Koyu Yüzlü, Çizi-Kazı ve Nokta Bezemeli Çanak Çömlek Verileri Işığında Orta Anadolu'da Orta Kalkolitik'e Geçiş Sorunu. İstanbul University, Unpublished PhD Thesis.
- Özdoğan, E., 2009 — Trakya'da Yapılan Son Araştırmalar Işığında Balkanlar'da İlk Neolitik Çağ'dan Orta Neolitik Çağ'a Geçiş Sorunu. İstanbul University, Unpublished PhD Thesis.
- Özdoğan, M. 1998 — Tarihöncesi Dönemlerde Anadolu ile Balkanlar Arasındaki Kültür

- İlişkileri ve Trakya'da Yapılan Yeni Kazı Çalışmaları. *TÜBA-AR* 1: 63-93.
- Pişkin, E., 2018 — Ulucak Animal Bones 2017. Unpublished Tübitak Report (no. 114K 271).
- Roodenberg, J., 1999 — Investigations at Menteşe Höyük in the Yenişehir Basin (1996-1997). *Anatolica* XXV: 21-36.
- Roodenberg, J., A. van As, L. Jacobs, and M.H. Wijnen, 2003 — Early Settlement in the plain of Yenişehir (NW Anatolia). The Basal Occupation Layers of Menteşe. *Anatolica* XXIX: 17-59.
- Roodenberg, J.J., and S. Alpaslan-Roodenberg, 2013 — Ilıpınar and Menteşe. Early Farming Communities in the Eastern Marmara. In: M. Özdoğan, N. Başgelen. and P. Kuniholm (eds.), *The Neolithic in Turkey; Northwest Turkey*, Volume 5, 69-91. Istanbul.
- Roodenberg, J., 2011 — Ilıpınar: A Neolithic Settlement in the Eastern Marmara Region. In: S.R. Steadman and G. McMahon (eds.), *The Oxford Handbook of Ancient Anatolia: (10,000-323 BCE)*, 950-967. Oxford: Oxford University Press.
- Roodenberg, J., 2012 — Change in food production and its impact on an early 6<sup>th</sup> millennium community in northwestern Anatolia. The Example of Ilıpınar. *Præhistorische Zeitschrift* 87 (2), 223-235.
- Schachner, A., 2012 — Die Ausgrabungen in Boğazköy-Hattuša 2011. *Archäologischer Anzeiger* 2012/1: 85-137.
- Schoop, U., 2005a — Das anatolische Chalkolithikum. Eine chronologische Untersuchung zur vorbronzezeitlichen Kultursequenz im nördlichen Zentralanatolien und den angrenzenden Gebieten. Leipzig: Bernhard Albert Greiner.
- Schoop, U., 2005b — Early Chalcolithic in North-Central Anatolia: the evidence from Boğazköy-Büyükkaya. *TÜBA-AR* VIII: 15-32.
- Shennan, S., 2018 — The First Farmers of Europe: An Evolutionary Perspective. Cambridge, Cambridge World Archaeology.
- Şahin, G.F., 2014 — Kanlıtaş Höyük'te 2013-2014 Yıllarında Ele Geçirilen Erken Kalkolitik Dönem Seramiği. Bilecik Şeyh Edebali University, Unpublished MA Thesis.
- Takaoğlu, T., 2015 — Prehistoric Occupations at Smintheion: A Preliminary Report. In: C. Özgünel (ed.), *Smintheion*, 139-167. İstanbul.
- Thissen, L., 2008 — The pottery of Phase VB. In: J.J. Roodenberg and S. Alpaslan Roodenberg (eds.), *Life and Death in a Prehistoric Settlement in Northwest Anatolia. The Ilıpınar Excavations, Volume III. With contributions on Hacılartepe and Menteşe*, 91-115. Leiden.
- Thissen, L., 2010 — The Neolithic-Chalcolithic Sequence in the SW Anatolian Lakes Region, *Documenta Præhistorica* XXXVII: 269-282.
- Vandam, R., 2015 — The Burdur Plain Survey Project, SW Turkey. In search of the Middle Chalcolithic (5500-4200 BC). In: S.R. Steadman, and G. McMahon (eds.), *The Archaeology of Anatolia: Recent Discoveries (2011-2014)*, Vol. I, 278-297. Cambridge.

## SNAKES IN THE PLAIN. Contextualizing prehistoric Near Eastern snake symbolism and early human behaviour

Thomas Zimmermann\*

### *Abstract*

*The article attempts an alternative and anthropological-based hypothesis to explain the abundance of snake motives in the Earliest Near Eastern Neolithic, contrasted with their relative scarcity in later times. The focus is mainly, but not exclusively, on the Pre-Pottery Neolithic (PPN) of Southeast Turkey, with sites like Göbekli Tepe and Körtik Tepe having produced a huge number of snake motives applied to a variety of materials and items. The predominance of the snake motive is then related to venomous serpents being a cardinal thread to hominids and humans throughout their evolutionary history, and particularly to early farmers, where snakes were a notorious hidden danger for semi-sedentary, crop-cultivating communities.*

### INTRODUCTION – VERMICULATING THE TOPIC

The *anguis* or *serpens*, whether labelled as a venomous creature, or embodiment of evil spirits, or as a coiled reptile radiating magical powers, or by way of complete contradiction, as a healing agent, is an ever-recurrent symbol in the human narrative, present and potent from early prehistory through to modern times. That said, a serpent or dragon-like creature biting its own tail, eventually understood as a cipher for – surely positive – concepts like self-reflexion, cyclicity, or eternal renewal, represents one of the most prominent symbols in Gnostic or Hermetic traditions (Sheppard 1962; Eire 2010: 29; Roob 2011: 329-347) (Fig. 1).

In prehistoric archaeology, serpents are a well documented phenomenon the recurrently hisses in archaeological debates, since artistic renderings of snakes are well known from having been shaped from or applied to a variety of materials. Rightly so, an ever-growing number of publications are devoted to put the occurrence of serpents in prehistoric art in better perspective (see especially Lurker 1983; Moretz 2013 with further literature). However, the common approaches consider, generally speaking, ritualistic or shamanistic activities as the most plausible explanation for their presence (cf. Hodder & Meskell 2011; Schmidt 2013), embedded in a mythological universe occupied by “heavenly” creatures (for example eagles), opposed to “chthonic” beasts like snakes that are populating the underworld (Schmidt 2013: 149).

---

\* Thomas Zimmermann, Bilkent University Ankara, Faculty of Humanities and Letters, Department of Archaeology. The manuscript was completed in July 2018. I am indebted to Martin Thau who triggered off a fruitful discussion about the potential archaeological consequences of Lynn Meskell’s observations, to the anonymous reviewer(s) for their valuable comments, and traditionally grateful to my colleague Julian Bennett for proofreading the manuscript. Any shortcomings are, of course, the author’s sole responsibility.



The following contribution will not completely dismiss these explanations, but dare a more “earthbound” approach to snake symbolism in the early Near Eastern Neolithic.

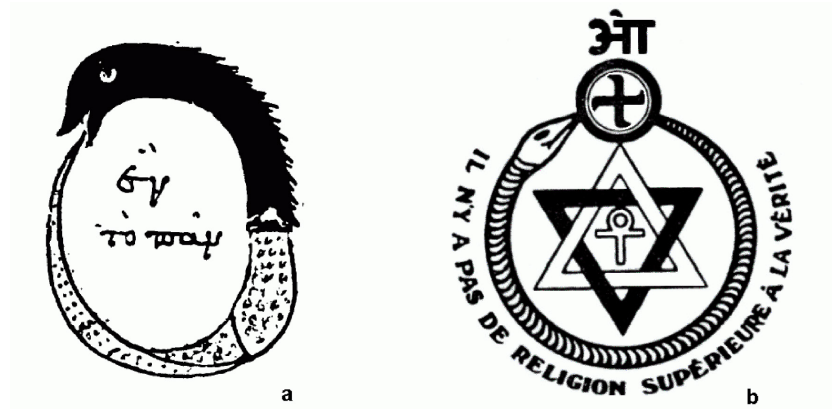


Fig. 1. The Ouroboros through the ages: a. early Ouroboros illustration from the works of Cleopatra the Alchemist, in her *Chrysopoea of Cleopatra*, c. 3<sup>rd</sup> century CE, Egypt, with the words ἐν τὸ πᾶν (“The All is One”), reproduced in the *Codex Marcianus Graecus* 299 fol. 188v (Wikipedia Commons, [https://en.wikipedia.org/wiki/Ouroboros#/media/File:Chrysopoea\\_of\\_Cleopatra\\_1.png](https://en.wikipedia.org/wiki/Ouroboros#/media/File:Chrysopoea_of_Cleopatra_1.png); b. seal of the Theosophical Society, founded by Helena Blavatsky in 1875 ([https://en.wikipedia.org/wiki/Theosophical\\_Society#/media/File:Theosophie.jpg](https://en.wikipedia.org/wiki/Theosophical_Society#/media/File:Theosophie.jpg), Wikipedia Free Art License 1.3, <http://artlibre.org/licence/lal/en/>).

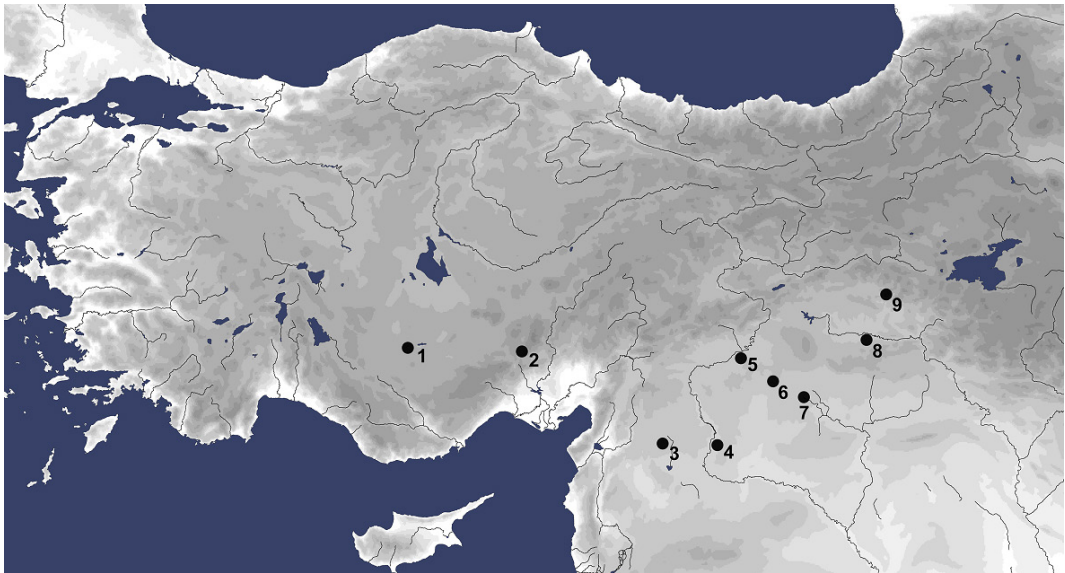


Fig. 2. Map showing the major findspots mentioned in the text:  
1. Çatalhöyük; 2. Köşk Höyük; 3. Tel Qaramel; 4. Jerf-el-Ahmar; 5. Nevalı Çori;  
6. Göbekli Tepe; 7. Karahan Tepe; 8. Körtik Tepe; 9. Hallan Çemi.

# SNAKE SYMBOLISM IN EARLY NEOLITHIC ANATOLIA

Serpents carved in bone, hewn in stone or incised on lithic vessels are a well-documented facet of the rich Pre-Pottery Neolithic (PPN) iconography in Anatolia (Fig. 2), appearing, for example, as an ever-recurring motive at Göbekli Tepe, the well-known yet much debated ritual focus near modern Şanlıurfa, southeast Turkey (Schmidt 1998; Schmidt 2011a; Schmidt 2011b). Prominently located on a limestone plateau, Göbekli Tepe proves to be a fascinating locus for studying the transitional period to sedentiarism at the beginning of the Holocene. The circular and ovoid megalithic structures with their T-shaped uprights popularized in different media belong actually to the early phase of Göbekli, Phase III, dated to the 10th millennium BCE. In the succeeding Phase II era (approximately the earliest 8th millennium BCE), these round “temples” were superseded by smaller, rectangular structures with considerably smaller pillars hewn in a similar T-shape (Schmidt 2011a).

While it is true that sculptured T-shaped pillars from the PPN A period are known from several locations in Upper Mesopotamia, those at Göbekli Tepe currently surpass those other examples by far in their size, their sculptural accomplishments and their pictorial representations. Moreover, the earlier phase of sculpted lithic elements at Göbekli Tepe displays a stunning range of execution. The pillars are meticulously decorated in low and high relief with an astounding range of motifs, the animal-based iconography extending from familiar local mammals such as wild boars, rams, foxes, and lions, via water-based birds as with cranes and ducks, to predatory arachnids including scorpions and – once again – snakes (Fig. 3) (Peters and Schmidt 2004; Schmidt 2013). Even more noticeable is how statistically serpents are by far the most abundant animal depicted in different shapes and combinations, outnumbering the second most frequent and securely identifiable being – the fox – by about 14% (Peters and Schmidt 2004: 185 table 2).

They are sculptured as single thick specimens with triangular heads, in small groups of three to five, or as larger composite patterns resembling waves or a net-like structure (Fig. 4a). With two exceptions only, these serpents are carved on the broad lateral side of the pillars, and generally moving downwards to the pillar’s foot (Peters and Schmidt 2004: 184).



a



b

Fig. 3. Snake representations on T-shaped pillars from Göbekli Tepe, Şanlıurfa, Turkey: a. Enclosure D, pillar 30; b. Enclosure D, pillar 22. After Peters & Schmidt 2004.

With regard to snakes carved on T-shaped pillars analogous to those of Göbekli Tepe, the only

certain examples are reported from Karahan Tepe, about 63 kms east of modern Şanlıurfa. On one larger fragment, a single snake with a broad triangular is depicted winding upwards towards the horizontal top section (Fig. 4b) (Çelik 2000: 6 Fig. 1; Çelik 2011: 243; 250 Figs. 8-10). A second T-shaped pillar fragment found there in 2011 displays a faint relief of the very same motive (Çelik 2011: 243; 250 Fig. 11).

On the other hand, snakes or snake-like motifs are found represented on other artefacts of the Earliest Neolithic in the general region. For example, at Nevavlı Çori, a now inundated PPN-B site located in the Hilvan district northwest of Göbekli Tepe. This site has produced a larger-than-lifesize head with pronounced ears, unfortunately missing its face, but with on the back of the bald skull, a snake with triangular head identical to those of Göbekli Tepe curling upwards (Fig. 5a) (Hauptmann 2011: 127 fig. 11a/b). This remarkable piece, found in secondary position in the so-called square-shaped “cult building” together with other carefully placed fragments of large-scale figural art, was obviously part of a huge anthropomorphic statue, placed in a recess belonging to the building’s second construction phase (Hauptmann 2011: 98). Dated mid to late 9<sup>th</sup> millennium BCE, this serpent sculpture thus postdates the monumental snake-adorned architecture at Göbekli Tepe by a few hundred years.

Snake motifs, in this case carved on stone vessels, occur also in very early PPN-A contexts at Körtek Tepe. Located near Bismil in the province of Diyarbakır, round domestic structures with limestone rubble foundations and compressed mud floors testify to a very early date within the Near Eastern Neolithic sequence, with calibrated <sup>14</sup>C dates clustering at about 9800-9600 BCE (Özkaya and Coşkun 2011: 89-93; 103). Much attention has naturally been focussed on the treatment of the human remains found at this site as they provide a fascinating insight into complex funeral stagings attested in 10th millennium BCE Upper Mesopotamia (Özkaya and Coşkun 2011: 93-4; Erdal 2015). So, for example, recent research has revealed that the bodies were de-fleshed at the decomposition stage, plastered and painted, interred and carefully covered with shards of crushed stone vessels (Özkaya and Coşkun 2011: 93-100; Erdal 2015: 4-23). Here, however, we draw attention to the equally intriguing if re-assembled stone containers found at the site. These show a considerable variety of incised and encrusted geometrical and animal-shaped motifs, including wild goats, but most especially snakes appear on several vessels with their bodies rendered vertically in wavy line, and with triangular heads similar to their sculptured counterparts from Göbekli Tepe and Nevalı Çori (Özkaya and San 2003: 433 Fig. 3; Özkaya and Coşkun 2011: 121 Fig. 23) (Fig. 5f).

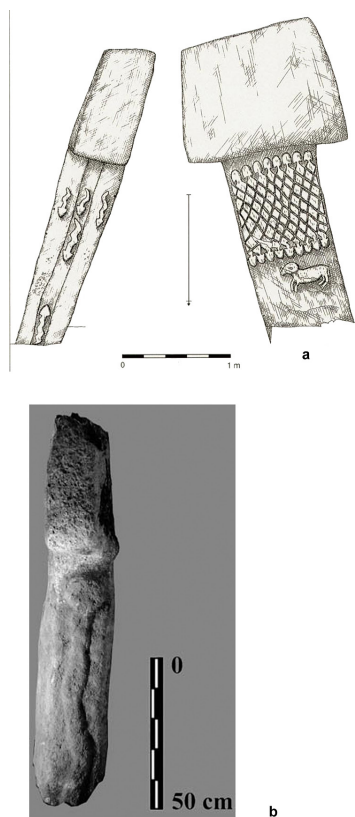


Fig. 4. More examples for snake motives carved out of T-shaped pillars: a. Göbekli Tepe, “Snake Pillar Building”, pillar 1; b. Karahan Tepe, Şanlıurfa (after Schmidt 1998; Çelik 2011).



While zig-zag motives on Chloride containers allegedly depicting snakes are likewise reported from previously mentioned Karahan Tepe (Çelik 2011: 246; 253 Fig. 24,7.8), they seem to be absent from stone vessels found at Halan Çemi, a small PPNA hamlet close to modern Batman in Southeast Turkey, which was occupied for a few centuries towards the mid 10<sup>th</sup> millennium BCE (Rosenberg 2011: 61). On the other hand, that site has reportedly produced two carved bone items in the shape of snakes reminiscent of those adorning vessels and pillars at Göbekli Tepe, Nevalı Çori and Körtük Tepe (Rosenberg 2011: 66; 78 Fig. 16).

A glimpse beyond Anatolia proper into Upper Mesopotamia confirms the presence of snake symbolism amongst Northern Syrian PPN communities also. At Tel Qaramel, whetstones retrieved from a secondary context, but associated with the PPN A phase, yielded both carved and scribed snake designs (Mazurowsky and Jamous 2001: 340 Fig. 8). Then there are incised stone plaquettes showing several variations of our characteristic winding, arrow pointed or triangular headed snake from PPN A contexts at Jerf-el Ahmar in Northern Syria (Fig. 5b-e) (Cauvin 1997: 71 fig. 19,1.2.3a.4a; Akkermans and Schwartz 2003, 89 Fig. 3.18; Helmer, Gourichon and Stordeur 2004: 155 Fig. 5B).

Be that as it may, the evidence from Anatolia hints strongly at a decline in snake symbolism with the dawn and early period of the pottery-producing Neolithic. For example although Çatalhöyük – a site occupied on the threshold of this epoch – stands as an iconic place famous for its richness in figural designs, the eastern mound, inhabited from ca. 7400-6000 BCE (Hodder 2012: 245), has not produced any bone or stone objects, carvings, paintings or plastered decoration involving serpents except for a single artefact (Peters and Schmidt 2004: 214; Hodder and Meskell 2011: 250) (Fig. 6b). That is the extraordinary fine flint dagger with

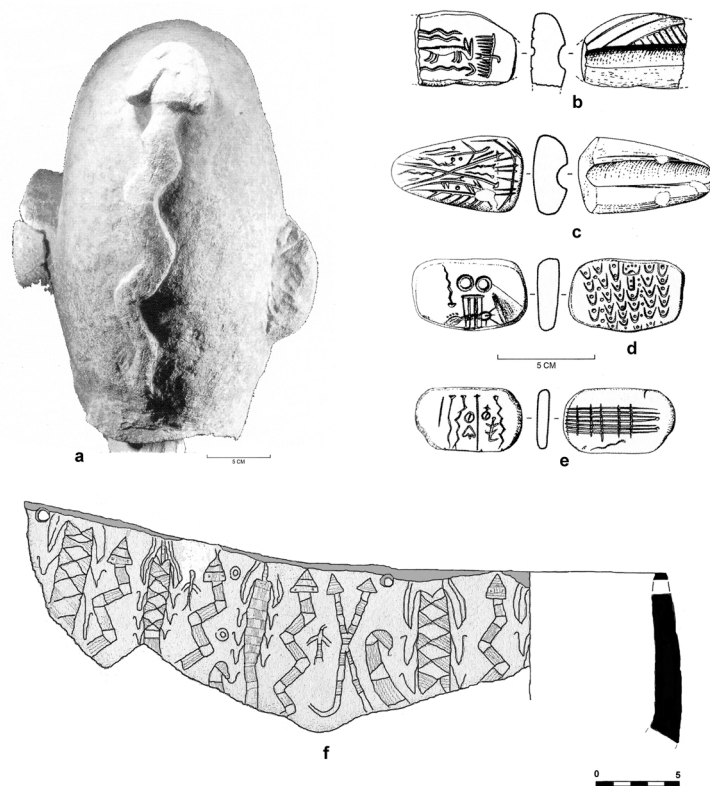


Fig. 5. The ever-present snake on a human limestone head from Nevalı Çori, cult building II (a); incised stones from Jerf-el-Ahmar (b-e); and a decorated stone vessel shard from Körtük Tepe (f) (after Hauptmann 2011 (a), Akkermans & Schwartz 2003 (b-e), and Özkaya & San 2003 (f); f. redrawn, with contours pronounced for clarity).

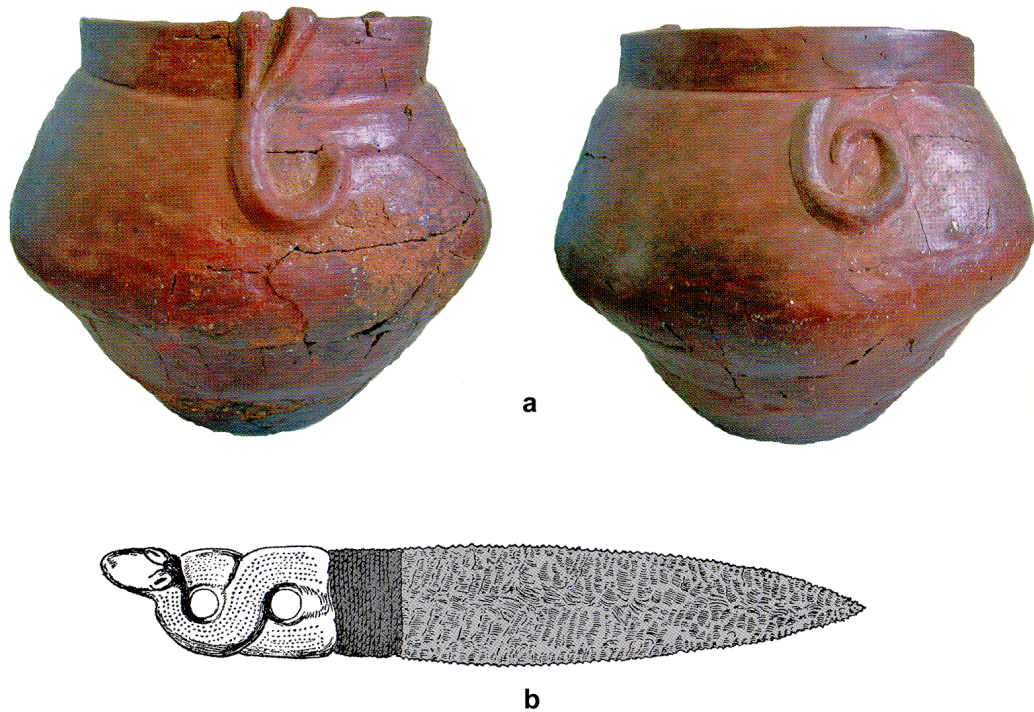


Fig. 6. Pottery vessel from Köşk Höyük with relief snake (?) decoration (a) and a flint dagger from Çatalhöyük with a bone handle carved in shape of a coiled snake (b). After Öztan 2012 (a) and Zimmermann 2015 (b).

a bone handle carved in shape of a coiled snake, from a burial context associated with level VI and dated to about 6750 BCE (Hodder and Meskell 2011: 249; Zimmermann 2015: 11; 15 Fig. 1.4.1). True, finely modelled single- and double-headed snakes appear on recently excavated relief pottery from Köşk Höyük (province of Niğde, Central Turkey), a site of mid to late 7<sup>th</sup> millennium BC date (Öztan 2012: 38; 62 Fig. 31), but otherwise snakes as decorative applications seem to have largely lost their artistic appeal and impact when compared to their plentiful occurrence in the preceding periods (Fig 6a).

The preliminary impression, then, is that of an abundant serpent symbolism especially in the earliest Neolithic PPNA phases which tails off towards and during the beginning of the Pottery-Neolithic period. Currently Göbekli Tepe appears to be a focal point for their representation – indeed, one might say over-representation – but other items such as stone plaquettes and containers from various PPN sites testify to their special place within the post-Pleistocene bestiary. Their frequency in artistic rendering seems to drop harshly in the PPN B period. And with the end of the Aceramic Neolithic cultural setup and the advent of regular pottery-making in the late 8<sup>th</sup> and early 7<sup>th</sup> millennium BCE, then despite the potential of a new medium for their artistic expression, snake motifs occur only very sporadically in the archaeological record.



Whatever the reason for this lack of snake motifs in sites of the proto – and the ceramic-phase Neolithic, what is noteworthy is that despite the frequency of serpent decorations in Early Neolithic Anatolia, very few, if any snake species are recorded in the faunal remains of the known sites. On one level, this is probably not that surprising at all, as snakes would not have necessarily been on a regular diet of late foragers and early farmers, while, as observed by Schmidt and Peters, taphonomic processes might add to the scarcity of smaller faunal remains (Peters and Schmidt 2004: 209). Nonetheless the Urfa region is known, if not actually notorious, for harbouring several dangerous serpent species – some of them now extinct – (Wallach, Williams and Boundy 2014: 242; 257-259; 423; 466; 481), amongst them the highly venomous Levantine viper (*vipera Lebetina*) (cf. Ščerbak and Böhme 2005) whose characteristic triangular head shape could be the model for our PPN(A) snake depictions at Göbekli Tepe and its environs (Peters and Schmidt 2004: 183) (Fig. 7).



Fig. 7. *Macrovipera lebetina* hiding in the grass. Note the characteristic triangular shaped head which coincides nicely with the predominant snake depictions at Göbekli Tepe and Karahan Tepe (Wikipedia/Creative Commons licence <https://creativecommons.org/licenses/by-sa/3.0/>).

#### EARLY SNAKE SYMBOLISM – SURVEYING THE COMMON ARCHAEOLOGICAL DEBATE

The absence of snake remains in the faunal assemblages of the Aceramic Neolithic aside it is nonetheless clear that the snake was a familiar if not common feature of contemporary symbolism. Insofar as their representation is concerned on sites of the period, it will probably come as no surprise to see how archaeologists have generally tended by way of explanation to embrace the historical, ethnographical, social and psychological concepts that center on serpent symbolism and symbolic actions related to snakes as sketched out at the beginning of this article. Which means that the sexual dimension of snake representations is eventually summoned upon to explain the serpent motifs at Göbekli Tepe, linking them to a “phallogentric” approach to ritual (Hodder and Meskell 2011: 239). There again, an alternative approach considers the snake motifs there as the “grounded” part of a dualistic dichotomy, which involves interpreting the eagle depictions at Göbekli Tepe as symbolizing the “heavenly”, light-full aspect of life, whereas snakes are once again condemned to represent the “earthbound”, “dark” side (Schmidt 2013: 149). That aside; their presumed inedibility makes them, together with related species like scorpions or spiders, not good candidates for feasting ceremonies – leaving them with a vague “totemic” function as a possible explanation for their abundant depiction (Hodder and Meskell 2011: 244).

Other discussions on serpents in pre – and early historic societies embrace their likewise arbitrary connotation with matters of life, death and physical or spiritual recurrence. Thus even the overarching, yet highly speculative concept of a cross-cultural Neolithic female deity bearing bird and snake attributes has been contemplated (see Robbins Dexter 2011: 185-186). A more positive, female-based “life-affirming” (but still somewhat menacing) symbolic meaning of the snake in prehistory has even been juxtaposed with a mostly negatively connoted aspect of the snake/serpent in artworks of later times, rooted in a probable fear-fuelled rejection and finally ban of such concepts in patriarchal regimes (Robbins Dexter 2011: 199). Yet, whatever myths and miracles our ancestors associated with serpents, the fact remains that snake motifs are ever-present in the earliest Pre-Pottery Neolithic, clearly outnumbering the artistic snake rendering of succeeding periods.

#### WATCH OUT! – A DIFFERENT APPROACH TO EXPLAIN ABUNDANT SNAKE DEPICTIONS IN EARLY NEOLITHIC UPPER MESOPOTAMIA

Akin to the complex evolution of the human physios, the development of habits, phobia and gestures over time is sure enough intertwined with the response to environmental challenges. Power-players in the modern Premier League of human abhorrence as with widespread arachnophobia are generally linked to behavioural patterns in early human history. So, for example, guaranteeing higher life-expectancy through avoiding (venomous) spiders and other poisonous creatures (Davey 1994: 17-18; Gerdes, Uhl and Alpers 2009; Russell, Maslej and Andrews 2015), although more recent cultural aspects in being pathologically repelled by our eight legged roommates are likewise taken into consideration (Davey 1994: 20-24). The point here being that akin to the potential danger of multilegged anthropods, snakes are in general considered to be a grave hazard to humans, despite the fact that only few species are venomous enough to harm lethally a human being (Kasturiratne *et al.* 2008; Chippaux 2012). Still, without the appropriate antidote, a bite by even a less-venomous variety can lead to symptoms as nasty as oedemas, necrosis and kidney malfunction (Warrell 2010). And whatever their potential or actual lethality, snakes of one kind or another seemingly accumulated in numbers high enough in the Upper Mesopotamian region, the modern Southeast of Turkey, in Aceramic times so as to make their appearance known to contemporary observers (see above).

At the dawn of mankind, on the long and winding road from primates to hominids, our physical abilities eventually evolved alongside with our fears, reflexes and gestures, as so our responses to a slow but ever-changing environment. In a bold and both praised and debated (cf. Kamilar 2010; Ruse 2012), but nevertheless inspiring hypothesis, anthropologist L. Isbell has argued for snakes being the key reason for the development of the exceptional vision shared by humans – to detect and to avoid them (Isbell 2009: 125-148). Moreover, a gesture such as declarative pointing that is exclusive and peculiar to our species (and not understood by other higher developed mammals) might be the result of a selective process with the sizzling snake hidden in the grass as the prime motivator for this all too human behaviour (Isbell 2009: 148-153).

At the upper end of the evolutionary timeline, *Homo sapiens*, who had developed for about 200,000 years alongside his closer and remote Pleistocene hominid relatives as a successful mobile species of hunters, fishers and gatherers, abandoned this way of life merely 12,000 years ago – with profound consequences for human history ever since. At the turn to the Holocene climatic period, the Near East, or more precisely the region known as the “Fertile Crescent” becomes the focus for the first tribal bands experimenting with new building materials and the taming of plants and animals, forever changing the course of humankind’s cultural history. In this transitional period, early farming communities exposed themselves to high risk in applying a whole set of new and previously untested technologies that were basically revolving around successfully producing and storing food to bring a village community safe and sound through the coming winter.

The deeper intellectual reasons for this radical change in human survival strategies, especially the role of ideology, authority and organized belief systems, and the right methodological approach to identify them, are still hotly debated (for example Wunn 2001; Wunn 2003; Watkins 2004; Rowan 2012). On a practical level, the transition from mobile to sedentary, intertwined with the necessary transformation of the landscape to make lands arable, presented the communities with a variety of challenges. In this emerging subsistence mode based on reduced mobility and the arbitrary subdivision of food resources, probably attempted in vain since the Epipalaeolithic for several thousand years (Watkins 2004), venomous snakes were surely enough considered as a, probably *the* major threat to this still largely untested, risky and sensible new way of life<sup>†</sup>. In this pioneering period, the overwhelming presence of triangular-headed adder-like and related venomous snake representations at Göbekli Tepe and neighbouring sites eventually reflects the – ritually charged – respect and fear of this hideous creature, lurking in the brushwoods and grasslands made ready for planting crops.

That said, the argument developed here naturally does not claim universality when it comes to artistic renderings of serpents – or their absence – in early prehistory. For a start, a similar phenomenon cannot be observed with early farming communities in Europe (Whittle 1996; Tresset and Vigne 2007; Milisauskas 2011). However, the case of the Upper Mesopotamian Pre-Pottery Neolithic, with its abundance of snake depictions and Göbekli Tepe as an early centre of worship on the threshold to agriculture and sedentary life, is still tempting enough to dare a less transcendental but more experience-of-life based hypothesis.

With rural economies further evolving, however, we also witness a paradigm shift in belief systems. That is to say, from a rather egalitarian animist approach that puts man on equal terms when communicating with mammals and other creatures populating the shared ecosystem, to a steep hierarchic concept with *Homo sapiens* as the sole champion of creation. The snake, once a much feared yet respected equal amongst others, might then have lost not necessarily its menacing aura, but probably its post-Pleistocene label of being enemy number one to early food-producing communities.

---

<sup>†</sup> In Europe, snakebites were considered a major threat to farming communities even as late as the advanced 19<sup>th</sup> century AD, before agriculture became increasingly automatized with heavy farming machinery, profoundly reducing the risk of eventually lethal snakebite injuries (Chippaux 2012: 94).

## REFERENCES

- Akkermans, P.M.M.G., and G.M. Schwartz, 2003 — The Archaeology of Syria. From Complex Hunter-Gatherers to Early Urban Societies (ca. 16.000-300 BC). Cambridge: Cambridge University Press.
- Cauvin, J., 1997 — Naissance des divinités, naissance de l'agriculture: la Révolution des symboles au Néolithique. Paris: CNRS Éditions.
- Chippaux, J.-P., 2012 — Epidemiology of snakebites in Europe: A systematic review of the literature. *Toxicon* 59: 86-99.
- Çelik, B., 2000 — A New Early-Neolithic Settlement: Karahan Tepe. *Neo-Lithics* 2-3: 6-8.
- Çelik, B., 2011 — Karahan Tepe: a new cultural centre in the Urfa area in Turkey. *Documenta Praehistorica* 38: 241-253.
- Davey, G., 1994 — The "Disgusting" Spider. The Role of Disease and Illness in the Perpetuation of Fear of Spiders. *Society and Animals* 2: 17-25.
- Eire, C., 2010 — A Very Brief History of Eternity. Princeton: Princeton University Press.
- Erdal, Y.S., 2015 — Bone or Flesh: Defleshing and Post-Depositional Treatments at Körtik Tepe (Southeastern Anatolia, PPNA Period). *European Journal of Archaeology* 18: 4-32.
- Gerdes, B.M., G. Uhl, and G.W. Alpers, 2009 — Spiders are special: fear and disgust evoked by pictures of arthropods. *Evolution and Human Behaviour* 30: 66-73.
- Hauptmann, H., 2011 — The Urfa Region. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), The Neolithic in Turkey. New Excavations and New Research. The Euphrates Basin, 85-138. Istanbul: Archaeology and Art Publications.
- Helmer, D., L. Gourichon, and D. Stordeur, 2004 — À l'aube de la domestication animale. Imaginaire et symbolisme animal dans les premières sociétés néolithiques du nord du Proche-Orient. *Anthropozoologica* 39: 143-163.
- Hodder, I., 2012 — Renewed Work at Çatalhöyük. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), The Neolithic in Turkey. New Excavations and New Research. Central Turkey, 245-277. Istanbul: Archaeology and Art Publications.
- Hodder, I., and L. Meskell, 2011 — A "Curious and Sometimes a Trifle Macabre Artistry". Some Aspects of Symbolism in Neolithic Turkey. *Current Anthropology* 52: 235-263.
- Isbell, L.A., 2009 — The Fruit, the Tree, and the Serpent. Why we see so well. Cambridge (MA), London: Harvard University Press.
- Kamilar, J.M., 2010 — Review of L. A. Isbell, The Fruit, the Tree and the Serpent. Why We See so Well (Cambridge, Massachusetts 2009). *Quarterly Review of Biology* 85: 121.
- Kasturiratne, A., A.R. Wickremasinghe, N. de Silva, N.K. Gunawardena, A. Pathmeswaran, R. Premaratna, L. Savioli, D.G. Lalloo, and H.J. de Silva, 2008 — The Global Burden of Snakebite: A Literature Analysis and Modelling Based on Regional Estimates of Envenoming and Deaths. *PLOS Medicine* 5: 1591-1604.
- Lurker, M., 1983 — Adler und Schlange. Tiersymbolik im Glauben und Weltbild der Völker. Tübingen: Wunderlich.
- Mazurowsky, R., and B. Jamous, 2001 — Tel Qaramel. Excavations 2000. *Polish Archaeology in the Mediterranean Reports* 12: 327-341.
- Milisauskas, S., 2011 — Early Neolithic, the First Farmers in Europe, 7000/5500-5000 BC. In: S. Milisauskas (ed.), European Prehistory. A Survey, 153-221. New York, Dordrecht, Heidelberg, London: Springer.
- Morenz, L.D., 2013 — Hybride Schlangen. Mythologische Bilder aus dem frühen Neolithikum. *Das Altertum* 58: 1-8.
- Özkaya, V., and O. San, 2003 — Körtik Tepe 2001 Kazısı. 24. Kazı Sonuçları Toplantısı (2. Cilt): 423-436.
- Özkaya, V., and A. Coşkun, 2011 — Körtik Tepe. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), The Neolithic in Turkey. New Excavations and New Research. The Tigris Basin, 89-127. Istanbul: Archaeology and Art Publications.
- Öztan, A., 2012 — Köşk Höyük. A Neolithic Settlement in Niğde-Bor Plateau. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), The Neolithic in Turkey. New Excavations and

- New Research. The Euphrates Basin, 31-70. Istanbul: Archaeology and Art Publications.
- Peters, J. and K. Schmidt, 2004 — Animals in the symbolic world of Pre-Pottery Neolithic Göbekli Tepe, south-eastern Turkey: a preliminary assessment. *Anthropozoologica* 39: 179-218.
- Robbins Dexter, M., 2011 — The Monstrous Goddess: The Degeneration of Ancient Bird and Snake Goddesses into Historic Age Witches and Monsters. *Journal of Archaeomythology* 7: 181-202.
- Roob, A., 2011. Alchemy and Mysticism. The Hermetic Museum. Köln: Taschen.
- Rosenberg, M., 2011 — Hallan Çemi. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), The Neolithic in Turkey. New Excavations and New Research. The Tigris Basin, 61-78. Istanbul: Archaeology and Art Publications.
- Roman, Y.M., 2012 — Beyond Belief: The Archaeology of Religion and Ritual. *Archaeological Papers of the American Anthropological Association* 21: 1-10.
- Ruse, M., 2012 — Review of L. A. Isbell, The Fruit, the Tree and the Serpent. Why We See so Well (Cambridge, Massachusetts 2010 (paperback edition)). *Journal of the History of Biology* 45: 175-177.
- Russell, M.J., M.M. Maslej, and P.W. Andrew, 2015 — Role of evolution. In: I. Milosevic and R. McCabe (eds.), Phobias: The psychology of irrational fear, an Encyclopedia, 130-133. Goleta: ABC-CLIO.
- Schmidt, K., 1998 — Frühneolithische Tempel. Ein Forschungsbericht zum präkeramischen Neolithikum Obermesopotamiens. *Mitteilungen der Deutschen Orient Gesellschaft* 130: 17-49.
- Schmidt, K., 2011a — Göbekli Tepe: A Neolithic Site in Southeastern Anatolia. In: S.R. Steadman and G. McMahon (eds.), The Oxford Handbook of Ancient Anatolia, 10,000-323 BCE, 917-933. New York: Oxford University Press.
- Schmidt, K., 2011b — Göbekli Tepe. In: M. Özdoğan, N. Başgelen and P. Kuniholm (eds.), The Neolithic in Turkey. New Excavations and New Research. The Euphrates Basin, 41-83. Istanbul: Archaeology and Art Publications.
- Schmidt, K., 2013 — Adler und Schlange. "Grossbilder" des Göbekli Tepe und ihre Rezeption. In: Ü. Yalçın (ed.), *Anatolian Metal VI*, 145-152. Bochum: Der Anschnitt Beiheft 24.
- Sheppard, H.J., 1962 — The Ouroboros and the Unity of Matter in Alchemy: A Study in Origins. *Ambix – The Journal of the Society for the History of Alchemy and Chemistry* 10: 83-96.
- Ščerbak, N. and W. Böhme, 2005 — Macrovipera lebetina (Linnaeus, 1758) – Levante-Otter. In: U. Joger and N. Stümpel (eds.), Schlangen (Serpentes) 3. Viperidae, 25-42. Wiebelsheim: Aula.
- Tresset, A. and J.D. Vigne, 2007 — Substitution of species, techniques and symbols at the Mesolithic-Neolithic transition in Western Europe. In: A. Whittle and V. Cummings (eds.), Going over: the Mesolithic/Neolithic transition in Northwest Europe, 189-210. London: Proceedings of the British Academy 144.
- Wallach, V., K.L. Williams, and J. Boundy, 2014 — Snakes of the World. A Catalogue of Living and Extinct Species. London, New York: CRC.
- Warrell, D., 2010 — Snake bite. *Lancet* 375: 77-88.
- Watkins, T., 2004 — Architecture and 'Theatres of Memory' in the Neolithic of Southwest Asia. In: E. DeMarrais, C. Gosden and C. Renfrew (eds.), Rethinking materiality. The Engagement of Mind with the Material World, 97-106. Cambridge: McDonald Institute for Archaeological Research.
- Whittle, A.W.R., 1996 — Europe in the Neolithic. The creation of new worlds. New York: Cambridge University Press.
- Wunn, I., 2001 — The Beginning of Religion. *Numen* 47: 417-452.
- Wunn, I., 2003 — The Evolution of Religions. *Numen* 50: 387-415.
- Zimmermann, T., 2015 — Lithic Daggers in the Ancient Near East – Whence and Whither? In: C.J. Frieman and B. Eriksen (eds.), Flint Daggers in Prehistoric Europe and Beyond, 10-18. Oxford: Philadelphia, Oxbow Books.



## ASIA 88 BC: A LANDMARK IN GENOCIDE HISTORY

Gilles Courtieu\*

### **Abstract**

*The aim of this article is to provide an explanation to the infamous slaughter of the Romans in the province of Asia, in 88 BC, when all Roman citizens and their families were annihilated, in a single day, without any exception. My aim is to prove that the reason of this extreme act was not some erratic form of behaviour by the king Mithridates VI, but a result of his zoroastrian way of thinking, framed by an eschatological doctrine about a cosmic fight against Evil, represented in that case by Rome, and various devils, the Romans, to be eliminated all without exception, at the same time, as in a ritual.*

### INTRODUCTION

Th. Reinach wrote in his still famous *Mithridate Eupator roi de Pont*<sup>1</sup> concerning his prodigious hero Mithridates VI Eupator of Pontus: “Believer or skeptical. That is a point documents can’t help to find out”. In this passage he displays the only major failure in his erudite work: his complete disregard for the religious aspect of this monarch’s reign. He desperately tried, as did later scholars<sup>2</sup>, to explore the royal *psyche*, as a plausible way to explain the extraordinary moral strength and physical energy this monarch displayed whilst ruling his exotic Pontic State, fighting the Romans incessantly, never exhausted, always involved in one oddity or another, ferities, all the while showing incredible prowess<sup>3</sup>. Unfailingly, the deeds committed by Mithridates aroused curiosity, fear and fascination, as they seem to have been of a capricious, irrational, cruel, exaggerated nature, and the large-scale extravaganza he was responsible for, perhaps more planned and staged than truly spontaneous, finally became enshrouded in effective legends, most of them in his favour. This king needs to be taken seriously, as he is not the character of some tragedy or peplum<sup>4</sup>.

---

\* Université Jean Moulin Lyon III.

<sup>1</sup> Reinach 1890, 288: “La religion réclamait sa part dans cette vie très occupée. Croyant ou sceptique – c’est un point que les documents ne permettent pas de décider – Mithridate remplissait consciencieusement ses fonctions de chef et protecteur des églises nationales.” In note 6, the author analyses an account narrated by Paul Orosius (cf. n. 36): “C’est un chrétien à qui la grâce a manqué!”.

Many thanks to R.M. Kerr for the improvement of this text.

<sup>2</sup> McGing 2009, 209: “... how Mithridates’ mind is working...”.

<sup>3</sup> Greeks and Romans delighted, after his death, in telling stories about his abilities in foreign languages, his passion of poisons and their antidotes, his huge appetite, his physical strength, his endless taste for numerous women and books, etc.

<sup>4</sup> Mithridates was a subject for dramas, from Racine to Mozart, and even Louis XIV was once fond of it.



## IN SEARCH OF A ROYAL PSYCHE

Modern scholars, however, should not follow down this same path of fascination, once trodden by Cicero himself and which e.g. Reinach and more recently Mayor as well as the Black Sea Studies project, to quote some studies each of a quite different nature<sup>5</sup>, have pursued – since this then leaves the enigma of what was a surely extraordinary spirit without explanation. Certainly, such was not entirely due to his distinctive nature, but was also the product of a precise doctrine, as a famous example shows: the most decisive event of the infamous year 88 BC. In what follows, the general method will consist of an observation followed by analysis of the relevant facts as related to his behaviour, throughout his life, in particular those which appear unusual, surprising and devoid of any rational explanation (that is to say, a fairly good proportion of them)<sup>6</sup>.

The first clue is obviously the very name of Mithridates, or, more exactly Mithra-dates, also a dynastic designation of which he was the sixth and almost final ruler styled such, the implication being that he was, as were his like-named predecessors, offered as a person by or to Mithra, the Indo-Iranian god, which in turn leads directly to the Mazdaean doctrine<sup>7</sup>. Or, conversely, he was offered by the god to the world. Yet the name is so transparent and ubiquitous we rather neglect its significance, despite it showing Mithridates was not only from genuine Iranian stock, but also of Zoroastrian faith, and his biography is full of hints of Zoroastrianism, be they obvious or hidden. It begins with the quite well known anecdote of his miraculous birth<sup>8</sup>, and it ends after his death with the never examined state of his mummy, so badly made and therefore badly preserved<sup>9</sup>. Reinach briefly touched upon his ancestral faith, in two sentences, without though ever taking the matter into account in order to explain his hero's behaviour<sup>10</sup>. Although his Iranian origins are unfailingly mentioned, usually just in passing as it were, no religious significance is attached to this fact; he is just a kind of pagan like others<sup>11</sup>.

From a cosmic perspective, whether Greek, Roman or Barbarian, it would seem that the world was awaiting impending disasters in this year 88 BC<sup>12</sup>. Supernatural portents were so numerous and always of negative import that populations everywhere felt anxiety or panic, even in Rome itself<sup>13</sup>. Indeed, the Pontic king himself appeared to be one of those wishful or

<sup>5</sup> Mayor 2010; Højte 2009.

<sup>6</sup> It will be later the topic of a larger scale study, involving all the religious features of the reign.

<sup>7</sup> Parthian *Mihr-dāt*, Armenian *Mihrdat*, OIran. \**Miθra-dāta-*, Greek *Mithradātes*, *Meiridātēs*...: "Given by Mithra" more than "Given to Mithra"; cf. Schmitt 2005.

<sup>8</sup> García Moreno 1993, 91-109.

<sup>9</sup> Plutarch, *Life of Sylla* 44.

<sup>10</sup> Reinach 1980, 289: "Son véritable culte, son culte officiel est celui qu'avaient pratiqué ses ancêtres iraniens... Ahura Mazda est aussi le dieu suprême de Mithridate."

<sup>11</sup> Olbrycht 2009, 163-170; McGing 2009, 205: "This Persian element in the identity of Mithridates Eupator is important for its potential influence on his royal outlook". The cause for this is certainly the general lack of knowledge on Zoroastrianism, and one is left with the feeling that this important system of faith and its rites are far removed from both his and our reality. Another proof could be found in Saprykin 2009, 249 who only found two religious influences in the Pontic religion: Hellenistic and what he called "local deities".

<sup>12</sup> For the Roman point of view on the events, see Keaveney 1983, 53-86.

<sup>13</sup> Ballesteros Pastor 1999, 83-90; id. 2001, 51-74.

fateful signs<sup>14</sup>, as seen in his charismatic and messianic nature, staged in zoroastrianism as the eschatological Saviour, the Saoshyant,<sup>15</sup> a fact also noted by Diodorus who related that the king was officially acclaimed as “God and Saviour”<sup>16</sup>.

The first Mithridatic War had begun the previous year, although the bulk of the offensive occurred early in 88 BC, on Anatolian territory. One event surpassed all others and remained entrenched in the collective memory of Antiquity for centuries to come as one of the worst ever endured by the Romans and one which deserves special consideration: the methodical genocide of Roman citizens with their families.

### BLOODY VESPER

Let us recall the bare facts in all of their cruelty. Multi-ethnic Pontic troops invaded the rich and populous province of Asia and once the area was occupied, a complete extermination of Romans and Italians was decided upon and then put into action, whereby neither women nor children were to be spared<sup>17</sup>. Most explanations emphasise the social factor: the Romans and their allied Italians were so hated by all others that a simple decree was enough to unleash popular anger and instigate this bloodbath<sup>18</sup>. Rome’s bad conduct and the indigenous reaction are hence the classical explanation for this ancient humanitarian catastrophe. Nonetheless, this rationalisation can only explain the quantity and quality of the slaughter, one of hundreds known from Antiquity, despite the rather stereotypical (and exaggerated?) figures. In this case, though, the death toll was by all accounts quite remarkable, ranging from about 80,000 to 150,000 victims<sup>19</sup> which, however, is still insufficient to impart any special significance to this event. Even so, Roman sources admitted that the contemporary general and statesman L. Cornelius Sulla was the cause of bloodshed on a much larger scale in his long struggle against the Marianists, his fellow-citizens, during the Social War<sup>20</sup>. Should a comparison be made of those pitiless *imperatores* against their own *populus*, Mithridates would appear to be but a minor transgressor, yet it is he who would become the archetypal knave for future generations.

Hence we must look for some other dimension to explain the dubious renown of the 88 BC massacre, later known as ‘The Ephesian (or Asiatic) Vespers’<sup>21</sup>. It is not so much

<sup>14</sup> Ballesteros Pastor 1999, 83: “Ce roi eut-il l’idée de faire valoir l’arrivée de temps nouveaux? Il existe beaucoup d’indices qui le confirmeraient.”

<sup>15</sup> On this see Himmells 1973, 125-145, and the case of the Persian Sibyl as an expression of triumph by the Good, cf. Boyce-Grenet 1991, 299; for the global implications of this doctrine, cf. A. Hintze 1995, in part. 79, 89.

<sup>16</sup> Diodorus Siculus XXXVII 26: μετὰ ψηφισμάτων καλούντων αὐτὸν εἰς τὰς ἰδίας πατρίδας καὶ θεὸν καὶ σωτήρα προσαγορευόντων.

<sup>17</sup> McGing 1986, 113-114.

<sup>18</sup> Stanford 1950, 28-34; Sarikakis 1976, 261-264; Kallet-Marx 1995, 138-148.

<sup>19</sup> Memnon of Heracleia FGH 434F22; Valerius Maximus, *Memorable Deeds and Sayings* XI 2, 4 (80.000); Plutarch, *Life of Sylla* 24 (150.000).

<sup>20</sup> This very comparison, although provocative, is given by Dio Cassius F109.

<sup>21</sup> Reinach 1890, 132.

the conduct or the outcome which matter<sup>22</sup>, but instead it is in the very decision, the detailed plan itself where that which makes this event unique is to be found. Actually, and perhaps surprisingly, *testimonia* are singularly loquacious about the event, Roman memories distressfully recalling it through to St Augustine himself in the fifth century. Five key features appear to impart this wanton carnage with a macabre unicity:

1. The order was sent by the king once his ascendancy and power had been firmly established. He only began to show his cruel and paranoid behaviour later, after the Romans waged their counterattacks. That is to say, contemporary circumstances did not demand it, excepting some lunatic terrorist agenda. The priority at this time was still to appear as an ideal king in the line of Alexander the Great, expressing *philanthropia* to those who deserved it<sup>23</sup>.

2. There was no popular or political demand for it, as can be seen from the sources: the initiative belonged exclusively to the king. As we will see presently, the delay between the issuance of the decree and its realisation shows that had popular anger existed, it was restrained. In some cases, the cities were reluctant to obey and asked local villains to perform the hideous undertaking<sup>24</sup>.

3. The order to kill encompassed, as mentioned, not just Roman and Italian men, but also their entire families, including babies, as described by texts, with terrible scenes occurring in every city. The fact the Italians were also included is much more difficult to explain especially since at that very moment, these non-Roman allies were fighting too Rome in the Social War (91-88 BC). Probably it implies that anyone resembling a Roman in his manners and dress and speaking Latin serving as ultimate proof of their 'Roman-ness', were targeted. Something absolute and truly inhuman underlay the decree and modern scholars have often described the episode as a clear-cut case of genocide due to the fact that physical appearance was the main criterion of murder, and the effect of the measure was the eradication of a specific ethnic group. These features would seem to distinguish this event from the numerous wholesale killings known from Antiquity.

4. The decision was made and the order given by the king himself as was the custom in Hellenistic and Persian absolute monarchies. This *firman* was sent to the Western Anatolian Greek cities, by means of letters<sup>25</sup>. The importance of this seemingly trivial and technical detail is not immediately obvious, but yet all the sources insisted on it: written orders.

5. The latter criterion is decisive. Nearly all sources mention it, and although it appears to be but a detail, its precise purport is difficult to decode: the royal order specified that the killing should be committed *on one day only*, that is to say exactly at the same time. We can imagine those acts beginning at dawn, not during a single short sunset-time period, as implied by the expression *vespers* commonly adopted by earlier scholars... Simultaneity is the key of the enigma.

<sup>22</sup> As exposed without much analysis by Sarikakis 1976, 253-264; Amiotti 1980, 132-139; more developed in Alcock 2007, 13-20.

<sup>23</sup> Glew 1977, 254.

<sup>24</sup> In Tralles for instance, cf. Appian, *Mithridatic Wars* 23, Dio Cassius, F101 (ed. Cary, Loeb III, 469).

<sup>25</sup> Cicero, *Pro Flacco* 57: *una epistula*.

## DEADLY DEADLINE

The next point which must be addressed in this study is the chronological question. The king's written orders, in one way or another, stated that a special programme was planned, and a specific date was chosen for it. Cicero, a contemporary was struck by this feature and the first to mention it in his *De Imperio Cn. Pompei*: "... this one who in one day, in all Asia, in all the cities, by one message and one (written) instruction pointed the Roman citizens out to be killed and slaughtered"<sup>26</sup>.

He again insisted on this point later in his speech, and specified: "at one point in time" (*uno puncto temporis*)<sup>27</sup>. And this is not an historical report, merely a news item uttered in the Forum.

In the following century, Livy in his *Periochae* provides a more detailed account: the killing began in all places on the same day and lasted but a day<sup>28</sup>.

Other historians more or less repeated this remarkable facet of the event: Vellius Paterculus stated the massacre started the same day and in the same hour<sup>29</sup>. Later, Cassius Dio wrote about a single day<sup>30</sup> as did Eutropius<sup>31</sup> and Orosius<sup>32</sup>. For Aurelius Victor, the event was said to have occurred on a fixed date<sup>33</sup>. All the sources agree in as much as the massacre transpired on a fixed date<sup>34</sup>.

We must then conclude that the precise simultaneity, about which all sources concur, was significant because this was something new, extreme, frightening, and if we think of it, technically quite difficult to manage.

As might be expected, Appian, the most prolific author on Mithridates, offers more information, and it is wholly consistent with that of the others: "... and wrote secretly to all his satraps and city governors that on the thirtieth day thereafter they should set upon all Romans and Italians in their towns, and upon their wives and children and their freedmen of Italian birth, kill them and throw their bodies out unburied, and share their goods with Mithridates"<sup>35</sup>.

<sup>26</sup> Also known as the *Pro Lege Manilia* 7: *quod is, qui uno die, tota in Asia, tot in civitatibus, uno nuntio atque una significatione [litterarum] cives Romanos necandos trucidandosque denotavit (...)*.

<sup>27</sup> Ibid. 11.

<sup>28</sup> Titus Livius, *Periocha* 78: *uno die*.

<sup>29</sup> Vellius Paterculus, *Compendium of Roman History* II 18: *die atque hora*.

<sup>30</sup> Cassius Dio, F109 (ed. Cary, Loeb III, 491): *ἐν μιᾷ ἡμέρᾳ*.

<sup>31</sup> Eutropius, *Breviarium historiae Romanae* V 3: *uno die*.

<sup>32</sup> Paul Orosius, *Historiae Adversus Paganos* VI, 22: *sub una die*.

<sup>33</sup> Aurelius Victor, *De viris illustribus urbis Romae* LXXVI 3: *certa die*.

<sup>34</sup> But note Florus III 6: *uno ejus edicto*.

<sup>35</sup> Appian, *Mithridates' Wars* 22 (transl. Hodge, Loeb 1912-1988): *καὶ σατράπαις ἅπασι καὶ πόλεων ἀρχουσι δι' ἀπορρήτων ἔγραφε, τριακοστὴν ἡμέραν φυλάξαντας ὁμοῦ πάντας ἐπιθέσθαι τοῖς παρὰ σφίσι Ῥωμαίοις καὶ Ἰταλοῖς, αὐτοῖς τε καὶ γυναιξίν αὐτῶν καὶ παισὶ καὶ ἀπέλευθέροις ὅσοι γένους Ἰταλικοῦ, κτείναντάς τε ἀτάφους ἀπορρήψα (...). Τάδε μὲν δὴ δι' ἀπορρήτων ὁ Μιθριδάτης ἐπέστελλεν ἅπασιν ὁμοῦ, καὶ τῆς ἡμέρας ἐπελθούσης συμφορῶν ἰδέαι ποικίλαι κατὰ τὴν Ἀσίαν ἦσαν, ὧν ἓνια τοιάδε ἦν.*

The procedure behind the dissemination of the order described here is known from elsewhere: a written (sealed? secret?) order sent to new governors who bore the Persian title of 'satrap', (found in an inscription from Nysa<sup>36</sup>). Those additional data do not oppose the general notion of simultaneity, and need to be studied. Appian's account says the murderous order needed to be kept (*φυλάσσω*) secret by the local authorities because often news arrived fairly quickly and in this case there was some delay before the envisaged date of execution. In addition Appian notes that there was a period of thirty days between the decree's written issuance and its performance: sufficient time to make the necessary preparations, in the vast territory ruled by Mithridates. At the same time, it is also a simple usual chronological point of reference, a month, counting the days or calculating even after simple astronomical observation in the night. As Mithridates reigned from Pergamon at this time<sup>37</sup>, it was easy for messengers to reach all the cities of the western Anatolian coasts, from Byzantium to Lycia, where roads existed and where most of the envisaged victims lived. On such a scale, a month's notice would have been more than sufficient to ensure delivery and receipt of the orders, thus it would rather more appear to have been intended as a target date, a *terminus a quo*: by this time next month the deed should be done.

#### A QUESTION OF TIME AND SPACE

In light of the aforesaid, one might speculate as to whether the date chosen for the extermination of the Romans and their allies was not randomly chosen, but rather that it had some intrinsic inspiration besides providing sufficient advance notice. There are, though, two points which must be noted here.

First, how could such a simultaneous action be realised with ancient technology, even without visual signals, but only with letters brought by messengers, long before telegrams, telephones, satellites and internet? Simultaneous yet not instantaneous, with some calculated delay which is a much more difficult issue, that in turn presupposes a coordinated action. In a way, this is, although for a terrible end, actually an impressive and hitherto unnoticed human achievement.

Second, as the fatal information must have been kept secret for days, the risk of leaks and disclosures increased. In hindsight, this complicates things and appears very impractical and bureaucratic.

The Byzantine encyclopaedia, the *Suda*, was the only Antique text which attempted to explain the mystery of this strange behaviour: "Mithridates had given commands that the Romans be killed and had sent letters bearing the royal seal to the cities instructing that the mes-

<sup>36</sup> Cf. the king's letters dated just prior to the beginning of the invasion (*SyllB* 741).

<sup>37</sup> Plutarch, *Life of Sylla* 11, Appian 22; Eutropius V 5, 2 alone noted that the order came from Ephesus. This though changes nothing the authority remained settled in a major urban centre in the Province of Asia.

sages be read and carried out on the same day so that certain people would not be forewarned and take precautions, for he had ordered them to kill each and every Roman they could find”<sup>38</sup>.

This attempt at explanation is meaningless because it does not take into account the fact that the cities involved were rather distant from each other, and the respective messengers carrying the orders from the capital (whether Pergamon or Ephesus) had vari-distant journeys. At least it shows that later people were puzzled by this course of action and pseudo-rational solutions were offered. Other scholars, even in modern times, prefer to look at the consequences of this massacre, never trying to shed light on its causes.

My thesis is that nothing about the Ephesian Vespers came from bloody caprice or paranoia, but had deep roots in Mithridates’ education and faith, both of which can explain why he wanted by any means to leave his mark on the world.

## RELIGIOUS DUTIES

I would argue that this major event can only be understood in the context of what was to become known as the first (of three) long and exhausting Mithridatic Wars. Contemporary observers such as Cicero noted both a new quantity and quality in these events: “There was, besides, a general opinion which had taken deep root, and had spread over all the barbarian tribes in those districts, that our army had been led into those countries with the object of plundering a very wealthy and most religiously worshipped temple (*fani locupletissimi et religiosissimi*). And so, many powerful nations were roused against us by a fresh dread and alarm (*magnae nouo quodam terrore ac metu*)”<sup>39</sup>.

In his own words, Cicero tried to explain the religious origin of this violence, and in much the same way they would later come to experience in the Jewish wars: piety seems to be the direct cause of hostility and aggression seems to be a kind of cultic obligation.

Later Christian authors had perhaps the clearest understanding of the phenomenon: they had experienced how religious dogmas can reinforce political violence. Thus unsurprisingly, Paul Orosius presented a horrific portrait of Mithridates composing it with liberal doses of superstition along with cruelty and, ultimately, admiration: “Such an end of life Mithridates had, and the man left us a most forceful argument for his way of thinking, the most superstitious man of all (*homo omnium [...] superstitiosissimus*), as it is said, seventy-two of age, always accompanied by philosophers and by men skilful in the arts”<sup>40</sup>.

<sup>38</sup> Suda, sv. Αὐθέντης: (...) ὅτι Μιθριδάτης διετάξατο τοὺς Ῥωμαίους ἀναιρεῖν καὶ ἐπεμψε γράμματα εἰς τὰς πόλεις τὸ βασιλικὸν σφράγισμα ἔχοντα, μιᾷ τε ἡμέρᾳ τάξας ἀναγνῶναι καὶ παραχρῆμα τὰ γεγραμμένα πράξαι, ὅπως μὴ προμαθόντες τινὲς φυλάζωνται, see [www.stoa.org/sol-bin/search.pl?search\\_method=QUERY&login=guest&enlogin=guest&page\\_num=1&user\\_list=LIST&searchstr=Mithridates&field=any&xnum\\_per\\_page=25&db=REAL](http://www.stoa.org/sol-bin/search.pl?search_method=QUERY&login=guest&enlogin=guest&page_num=1&user_list=LIST&searchstr=Mithridates&field=any&xnum_per_page=25&db=REAL).

<sup>39</sup> Cicero, *Pro Lege Manilia* 9/23 (tr. C.D. Yonge 185): *quas numquam populus Romanus neque lacessendas bello neque temptandas putauit: erat etiam alia grauis atque uehemens opinio, quae animos gentium barbarum peruaserat, fani locupletissimi et religiosissimi diripiendi causa in eas oras nostrum esse exercitum adductum. Ita nationes multae atque magnae nouo quodam terrore ac metu concitabantur.*

<sup>40</sup> *History Against the Pagans* VI 5 (tr. R.J. Deferrari, Catholic University of America, 1964).



Pointedly, Augustine gave his own developed version of the Ephesian Vespers, in which he asserts all the mischief a powerful and eccentric pagan can produce before the time of Christ: "These things, however, I omit, as I say, though of one thing I must speak, how Mithridates, King of Asia, gave an order for the massacre on a single day (uno die) of all the Roman citizens dwelling abroad anywhere in their own business, and this was done. What a pathetic sight it was when suddenly, where each man was found, in a field, on a road, in an town, at home, in a street, in a market-place, in a temple, in bad, at a banquet, he was without warning and without regard for the gods treacherously butchered! What groans there were from the dying, what tears for the witnesses, even perhaps from those who dealt the blow themselves!"<sup>41</sup>

Two additional points can be added to show that Mithridates was motivated by putting religious concepts into practice. The first will be taken from the end of Appian's account: as the royal instructions stated, the Roman corpses were not to be buried but discarded. With the exception of state terrorism, such as in the case of Sophocles' *Antigone*, there can be only one explanation: the king was following Zoroastrian tradition with regard to burials, which is very strict in this matter, i.e. excarnation (exposition, defleshing by natural means)<sup>42</sup>. It was not exactly some religious duty, as the victims obviously were not Zoroastrian, but it was inspired by it.

The second point can be found in another episode from this war: Mithridates ordered a similar action against some local Galatian rulers, and nearly succeeded in eliminating almost all of them in one place, in one night<sup>43</sup>. Actually, this is a recurring pattern during the reign of Mithridates Eupator, scheming the destruction of enemies in a single, sudden stroke.

The religious dimension must now be explored in order to understand why Mithridates decided upon such a terrible action. In the following, my argument will be divided into three parts: how can the eradication of all individuals of foreign origin be explained; what are the roots of this striking feature of simultaneity; and then the question of the date. Or in the categories of Aristotelian classical unities in drama: unity of space, time and action<sup>44</sup>.

#### TOO MANY NOXIOUS LITTLE ROMANS

To our knowledge, Mithridates never gave any reason for his actions, at least none have been recorded for posterity. Pompeius Trogus and Sallust may have been in a position to do so, as they often transmit Mithridatic ideology and propaganda. Yet, without any surprise over the matter, they alone refuse to tell anything about the massacre of 88 BC, perhaps because they were relying on pro-Pontic and anti-Roman authors (e.g., Metrodoros of Skepsis)<sup>45</sup>.

<sup>41</sup> Augustine, *City of God* III, 22 (vol. I, tr. G.E. McCracken, Loeb 1957-1966).

<sup>42</sup> De Jong 1997; D. Huff 2004, 593-630.

<sup>43</sup> Appian, *Mithridatic Wars* 178.

<sup>44</sup> Aristotle, *Poetics* VIII 1451a.

<sup>45</sup> Adler 2006, 383-407; Alonso-Núñez 1984, 253-258.

On the cosmic scale, from a Zoroastrian point of view, in the war which this king decided to wage against Rome, there were only two acting powers: the Good, represented by Mithridates himself as supreme chief, and Evil, that is to say Rome. The Zoroastrian notion of redemption history clearly interprets historical events as if they were part of this incessant universal combat involving the forces of Good pitched against those of Evil. This religious literature is permeated with the notion of perpetual, recurrent<sup>46</sup>, combat between these two cosmic powers<sup>47</sup>, and maintains an eschatology in which the latter is ultimately destroyed. During the course of this archetypal war, the enemies are seen not merely as mortal opponents but as the very agents of Evil, without exception of age, condition or sex. Considered in this way, as a religious category, such antagonists need to be destroyed because in the end their only objective is to fight Good, the Truth, the Light, i.e. the very existence of the world and humanity<sup>48</sup>. To put it differently, such *nemeses* collectively are demons, in Avestic terms *daivas*. In the *Hymn of Mithra*, stories are told of their massive destruction by this god and that they number in the tens of thousands and dwell in the real world, not in another<sup>49</sup>. The mighty god Mithra crushes all of their skulls with his mace, and Mithradates' belief system made him aware of that.

This conceptual vision of the *nemesis* as an agent of Evil which must be utterly destroyed goes a long way to explaining the otherwise seemingly unmotivated lethal animosity displayed by Mithradates towards Romans and Italians; furthermore it explains why in 88 BC he by all accounts ordered their sudden and absolute extermination.

Undeniably, there was much slaughter of various enemies throughout the history of Persia and there can be no doubt that, from individuals to entire populations, this happened for the most part during the Achaemenid period, with witnesses expressing its monumentality on rocks<sup>50</sup>. Although the sources never report that a precisely timed simultaneous slaying was mandated or even necessary in such cases, some cosmological motivation is to be suspected. Among Zoroastrian rituals, the ceremony<sup>51</sup> known from texts<sup>52</sup> as the *xrafstar* (Avestic *xrafstra*-) might be proposed as evidence in this faith as some theological foundation for the planned, precise, and temporally delimited destruction of the agents of Evil during some short and brutal *simulacra*, even if this rite does not involve humans but rather specific categories of animals considered noxious, e.g. spiders, snakes, ants, rats, frogs, worms, etc.<sup>53</sup> In the ceremony as regularly described by outsiders, although in most cases probably not eyewitnesses, withal our only accounts, people were gathered whereupon they tried to exterminate *ad libitum* (some of) these species for a prescribed continuance: one, two, or three days<sup>54</sup>.

<sup>46</sup> Cereti-MacKenzie 2003, 35-38 and § 1/3, 11, 12, 15, 17 for the text.

<sup>47</sup> Mendoza Forrest 2011, 29-32.

<sup>48</sup> Choksy 2012, 159-160

<sup>49</sup> Vevaina 2015, 218-219.

<sup>50</sup> Cf. mostly Bruce Lincoln's studies: Lincoln 2007, 2012.

<sup>51</sup> From Ctesias *apud* Athenaeus, X 434d-f, Herodotus, *Histories* 1 140; for modern testimonies, Thévenot 1664, 111.

<sup>52</sup> *Vidēvdād* 14.5-6; cf. also *The Pahlavi Rivāyat Accompanying the Dādestān ī Dēnīg* ([PRDD], ed. Williams, Copenhagen 1990), 21a.3-46.

<sup>53</sup> Boyce 1992, 119, 174-175; Moazami 2005, 300-317.

<sup>54</sup> Summarised in De Jong 1997, 338-342.

Now clearly, neither the Romans nor their Italian neighbours, even those engaged in the Social War against Rome, were insects, rodents, amphibians or the like. The *xrafstar* tradition nonetheless demonstrates that in Zoroastrian tradition some tendencies to dramatise and realize in material context the cosmic battle against Evil, notably when enemies are to be exterminated, is manifest. So although Romans and Italians are not plague-like vermin, in 88 BC they were treated just like them<sup>55</sup>, and the process of dehumanization allowed maximum violence<sup>56</sup>. In the cathartic treaty of *Vidēvdād*, we see the cultic prescription to, as occasion warrants, kill on a large scale certain small animals (spiders, snakes, ants, rats and the like), often seen as a plague – though not on whim, but within a ritually defined and temporally fixed period (although killing the specified figure of 10,000 snakes would require an extended period of time!). Based on what we know of Mithridates Eupator's actions, might it be possible to draw the inference that he in light of Zoroastrian tradition saw the Romans as *daēnuas* and decided that these were to be dealt with as *xrafstar* at a theologically significant moment in time.

#### SPRING BREAK?

The final section of this case study rests solely on conjecture, but conjecture as a means of expanding the debate. By ordering the thirty day delay before complying with the fateful order, Mithridates would seem to have had a specific date in mind, when the slaughter should or need to happen. The Persian calendar had a very important function in Zoroastrian culture, as it conditioned populations through the dense succession of ceremonies very efficiently. It is however a quite complex subject because different systems coexisted contemporaneously and were in turn successive adaptations to the cosmic realities<sup>57</sup>.

As noted previously, the thirty day waiting period before the genocide ordered by Mithridates took place has found no convincing explanation hitherto. If we assume for the sake of argument, that he had some specific date in mind, what might it have been? In order to address this issue, we must first reconstruct the chronology. With regard to the starting date of the First Mithridatic War, never mind the date of most subsequent events, there is no general agreement<sup>58</sup>. It is nevertheless certain that the war was in progress before the end of 89 BC. The invasion was undertaken quickly and the Asiatic cities were soon occupied, and Mithridates' principal aims had been achieved before the next spring<sup>59</sup>. In this light, one occasion should be favoured as a date which suits that of such a striking episode as the Asiatic Vespers, the most important for Iranian people even now: the Persian new year, or Nowruz, coinciding with the spring equinox, at the end of March (usually between the 20<sup>th</sup> and the 25<sup>th</sup>). When the sun begins to gain strength and shine longer, when night and winter wane, since millennia

<sup>55</sup> The *daiva* (demons) are also named as "*xrafstra*-, referring to noxious creatures", cf. Herrenschmidt and Kellens 1993-2011.

<sup>56</sup> Kelman 1976, p. 25-61.

<sup>57</sup> For a synthesis on this complex issue, see F. de Blois 1996, 39-54.

<sup>58</sup> Sherwin-White 1984, 111; McGing 1986, 113, n. 118; Badian 1976, 111, who sets the event in the beginning of 88.

<sup>59</sup> Will 1967, 474 argues for a beginning of operations in the winter of 89; Sherwin-White 1984, 124.

Iranian populations everywhere have partaken in festivities expressing joy, in the hope of everlasting bliss. This time though, the Romans would not rejoice because the ‘New Day’ was from a Persian point of view, the religious occasion to wipe out the past and to renew for the present so as to sustain an ideal future – that is to say, without pesky Roman demons, male or female, old or young, in the offing. Among the numerous festivals in Zoroastrian calendar<sup>60</sup>, *Nowruz* is surely the best choice for a mass slaughter of human demons as with the Asiatic Vespers<sup>61</sup>. Admittedly, direct evidence for this suggestion is wanting, yet when one brings all of the known facts to bear, a strong circumstantial case can be made: the devout king Mithridates, steeped in Zoroastrian tradition and Iranian culture, planned the extermination of his adversaries, not through a semi-spontaneous unremitting large-scale pogrom, but rather in a single well-organised episode. One and one only specific, pre-determined day sufficed – and thus the most important day in the Persian year, the first day serving as an *omen* for the rest of days, was most probably chosen, that special day on which the triumph over Darkness is celebrated: a festival in which the forces of Evil guided by Ahriman were destroyed *pars pro toto*<sup>62</sup>.

## CONCLUSION

In this light, the slaughter of 88 BC should be understood as a mass *auto-da-fé*, one king’s quest to rid the earth of Evil as part of an ongoing cosmic battle. Neither the action itself, nor its planning nor its date of enactment are coincidental. In the grand scheme of eschatological combat, the enemy is demonized, and due to its impurity, is fated to annihilation. A new type of Holy War arose from the East with Mithridates, a novelty which even Cicero noted<sup>63</sup>.

In a sense, then, Mithridates’ extermination of the Romans and their allies in his Pontian kingdom in 88 BC would seem to be the first documented episode in which a specific ethnic group was targeted for systematic state mandated eradication in numerous distant locations throughout a vast kingdom, at the same moment on the same day, on – I would argue – the New Year’s day in the Zoroastrian tradition. How else, other than through religious motivation best explains this single day episode of mass slaughter ordered by Mithridates VI except his adherence to Zoroastrian ritual and the theology related to it?

<sup>60</sup> Boyce 1970, 513-539.

<sup>61</sup> The best easily accessible account is Boyce 2009.

<sup>62</sup> Boyce 1979, 58.

<sup>63</sup> Cicero, *Pro Manilia* 3, 11.

## BIBLIOGRAPHY

- Adler, E., 2006 — Who's Anti-Roman? Sallust and Pompeius Trogus on Mithridates. *The Classical Journal* 101: 384-407.
- Alcock, S.E., 2007 — Making sure you know whom to kill: spatial strategies and strategic boundaries in the Eastern Roman Empire. *Millennium* 4: 13-20.
- Alonso-Núñez, J.M., 1984 — Un historien antiromain: Métrodore de Scepsis. *Dialogues d'histoire ancienne* 10: 253-258.
- Amiotti, G., 1980 — I Greci ed il massacro degli Italiani nell'88 a.C. *AEVUM* 54: 132-139.
- Badian, E. 1976 — Rome, Athens and Mithridates. *American Journal of Ancient History* 1, 105-128.
- Ballesteros Pastor, L., 1999 — L'an 88 av. J.-C.: présages apocalyptiques et propagande idéologique. *Dialogues d'histoire ancienne* 25: 83-90.
- Ballesteros Pastor, L., 2001 — El siglo I a.C. y los presagios de una nueva era. In: J.L. Ruiz Sánchez (ed.), *Milenarismos: mesianismo y apocalipsis desde la historia y la religión*. Sevilla: Universidad de Sevilla, 51-74.
- Blois, F. de, 1996 — The Persian Calendar. *Iran* 34: 39-54.
- Boyce, M., 1970 — On the calendar of the Zoroastrian feasts. *BSOAS* 33: 513-539.
- Boyce, M., 1979 — Zoroastrians. Their Religious Beliefs and Practices. London/Boston: Routledge & Kegan Paul.
- Boyce, M., 2009 — Nowruz (i). In the Pre-Islamic Period. *Encyclopædia Iranica*, online edition: [www.iranicaonline.org/articles/nowruz-i](http://www.iranicaonline.org/articles/nowruz-i).
- Boyce, M., and Fr. Grenet, 1991 — History of Zoroastrianism III. Leiden: Brill.
- Boyce, M., 1992 — Zoroastrianism, Its Antiquity and constant Vigour. Costa Mesa: Mazda Publishers.
- Cereti, C.G., and D.N. MacKenzie, 2003 — Except by battle: Zoroastrian cosmogony in the 1<sup>st</sup> chapter of the Greater Bundahišn. In: C.G. Cereti, M. Maggi, E. Provasi (eds.), *Religious themes and texts in pre-Islamic Iran and Central Asia*. Studies in honour of Professor Gherardo Gnoli. Wiesbaden: Dr. Ludwig Reichert Verlag, 31-59.
- Choksy, J.K., 2012 — Justifiable force and holy war in zoroastrianism. In: S. Renard (ed.), *Fighting Words*. Berkeley: University of California Press.
- García Moreno, L., 1993 — Nacimiento, infancia y primeras aventuras de Mitridates Eupátor, rey del Ponto. *Polis* 5: 91-109.
- Glew, D., 1977 — The selling of a King. A note on Mithridates Eupator's propaganda in 88. *Hermes* 105: 253-256.
- Herrenschmidt, C., and J. Kellens, 1993-2011 — Daiva. *Encyclopædia Iranica*, online edition: [www.iranicaonline.org/articles/daiva-old-iranian-noun](http://www.iranicaonline.org/articles/daiva-old-iranian-noun).
- Hinnells, J.R., 1973 — The Zoroastrian doctrine of salvation in the Roman world. A Study of the oracle of Hystaspes. In: E.J. Sharpe, J.R. Hinnells (eds.), *Man and his Salvation*. Manchester: Manchester University Press, 125-148.
- Hintze, A., 1995 — The rise of the Saviour in the Avesta. In: C. Reck, P. Zieme (eds.), *Iran und Turfan*. Beitrage Berliner Wissenschaftler, Werner Sundermann zum 60. Geburtstag gewidmet. Wiesbaden: Harrassowitz, 77-97.
- Højte (ed.), J. 2009 — Mithridates VI and the Pontic Kingdom. Aarhus: University Press.
- Huff, D., 2004 — Archaeological Evidence of Zoroastrian funerary practices. In: M. Stausberg (ed.), *Zoroastrian Rituals in Context*. Leiden/Boston: Brill, 593-630.
- Jong, A. de, 1997 — Traditions of the Magi: Zoroastrianism in Greek and Latin Literature. Leiden: Brill.
- Kallet-Marx, R., 1995 — Hegemony to Empire: The Development of the Roman Imperium in the East from 148 to 62 BC. Berkeley: University of California Press.
- Keaveney, A., 1983 — What happened in 88? *Eirene* 20: 53-86.
- Kelman, E.G.H.C., 1976 — Violence without Moral Restraint: Reflections on the Dehumanization of Victims and Victimizers. *Varieties of Psychohistory* vol. 29, no. 4: 25-61.
- Lincoln, B., 2007 — Religion, Empire, and Torture: The Case of Achaemenian Persia, with an

- appendix on Abu Ghraib. Chicago: University of Chicago Press.
- Lincoln, B., 2012 — Happiness for Mankind: Achaemenian Religion and the Imperial Project. Louvain: Peeters.
- McGing, B.C., 1986 — The Foreign Policy of Mithridates VI Eupator, King of Pontus. Leiden: Brill.
- McGing, B., 2009 — Mithridates VI Eupator: victim or aggressor? In: Højte 2009, 203-216.
- Mendoza Forrest, S.K., 2011 — Witches, Whores and Sorcerers. The concept of Evil in early Iran. Austin: University of Texas Press.
- Moazami, M., 2005 — Evil animals in the Zoroastrian religion. *History of Religions* 44: 300-317.
- Olbrycht, M., 2009 — Mithridates Eupator and Iran. In: Højte 2009, 163-190.
- Reinach, Th., 1890 — Mithridate Eupator, roi de Pont. Paris: Librairie Firmin Didot.
- Saprykin, S.J., 2009 — The Religion and Cults of the Pontic Kingdom: Political Aspects. In: Højte 2009, 249-275.
- Sarikakis, Th., 1976 — Les Vêpres Ephésiennes de l'an 88 av. J.C. *Epistemonike Epeteris tes Philosophikes, Thessaloniki* / Ἐπιστημονικῇ Ἐπετηρὶς τῆς φιλοσοφικῆς Σχολῆς τοῦ Πανεπιστημίου Θεσσαλονίκης 15.
- Schmitt, R., 2005 — Personal Names, Iranian; IV. Persian Period. In: *Encyclopædia Iranica*, online edition: [www.iranicaonline.org/articles/personal-names-iranian-iv-parthian](http://www.iranicaonline.org/articles/personal-names-iranian-iv-parthian).
- Sherwin-White, A.N., 1980 — The Opening of the Mithridatic War. In: *Miscellanea di studi classici in onore di Eugenio Manni*; Vol. 6. Roma: G. Bretschneider, 1179-1195.
- Sherwin-White, A.N., 1984 — Roman Foreign Policy in the East, 168 B.C. to A.D. 1. London: Duckworth.
- Stanford, E.M., 1950 — Roman avarice in Asia. *JNES* 9: 28-36.
- Thévenot, J. de, 1664 — Relation d'un voyage fait au Levant. Paris: Thomas Joly & Louis Bilaine.
- Vevaina, Y.S.-D., 2015 — Theologies and Hermeneutics. In: M. Stausberg and Y.S.-D. Vevaina (eds.), *The Wiley Blackwell Companion to Zoroastrianism*. Chichester: John Wiley & Sons, 211-234.
- Will, E., 1967 — Histoire politique du monde hellénistique II. Nancy: Faculté des lettres et sciences humaines de l'Université de Nancy.



## THE 2017-18 GADACHRILI GORA REGIONAL ARCHAEOLOGICAL PROJECT (GRAPE): SECOND PRELIMINARY REPORT

*Stephen Batiuk, Khaled Abu Jayyab, Mindia Jalabadze, Andrew Graham, Stephen Rhodes  
and Levan Losaberidze, with contributions by Arno Glasser and Giorgi Chilingarashvili*

### **Abstract**

*South Caucasia, is an ecologically rich region, home to a diverse fauna and flora and an abundance of mineral resources. Although understudied by western scholars until recently, the region has proved to be highly favourable to the establishment of early human settlement and the development of early complex societies. From at least the end of the 7<sup>th</sup> millennium on, Neolithic communities practiced farming and herding subsistence, and engaged in long distance regional, and perhaps supra-regional trade. Yet, the process of Neolithisation in the South Caucasus remains poorly understood. This is particularly true in regards to the question of local adaptation versus movement of populations from the Neolithic cultures of the Fertile Crescent. Investigations in Caucasia, and Georgia in particular, have the potential to contribute significantly to our overall understanding of the Neolithic process of the Near East. Because of this geographical situation, investigations in the Kvemo Kartli Region offer new opportunities to contribute to the debate on the Neolithisation of the Caucasus, focusing on the of understanding of the development the Shulaveri-Shomu Cultural, its settlement organization and economy, and its relationship to other late Neolithic cultures in the greater Near East. Since 2016, a team of researchers from the Georgian National Museum, and the University of Toronto, has been engaged in archaeological investigations at the sites of Gadachrili Gora and Shulaveris Gora, which revealed the exceptionally well-preserved remains of a succession of settlements spanning the terminal parts of the Neolithic Period (ca. 6000-5000 BC). This paper represents the second preliminary report of the 2017 and 2018 seasons of the Gadachrili Gora Regional Archaeological Project Expedition (GRAPE).*

### INTRODUCTION

The Gadachrili Gora Regional Archaeological Project Expedition (GRAPE hereafter) focuses on a series of rural settlements in the Middle Kura region of the Kvemo Kartli province south of the modern city of Marneuli. This project investigates the emergence and evolution of Neolithic Cultures in the southern Caucasus and the development of horticultural practices, with a focus on viticulture and viniculture (Batiuk *et al.* 2017). GRAPE is a joint venture between the University of Toronto, the Georgian National Museum (GNM) and the National Wine Agency of the Ministry of Agriculture (of the Republic of Georgia). GRAPE represents the archaeological component of a larger interdisciplinary project sponsored by the Georgian National Government entitled the *Research and Popularization of Georgian Grape and Wine Culture* (Maghradze *et al.* 2017). The project is directed by Mindia Jalabadze (GNM), Stephen

Batiuk and Andrew Graham (University of Toronto), with Khaled Abu Jayyab (University of Toronto) directing excavations at Shulaveris Gora and the Regional Survey.

GRAPE undertook its second and third seasons of excavations between May 3 and June 13<sup>th</sup> 2017, and May 6<sup>th</sup> and June 15<sup>th</sup>, 2018, at the sites of Gadachrili Gora and Shulaveris Gora. The team also initiated a regional survey to examine the settlement history of the region with emphasis on the Neolithic landscape of the Middle Kura valley. This report presents the results of our 2017 and 2018 seasons, and re-evaluates some of our opinions as presented in previous reports.

The sites of Gadachrili Gora and Shulaveris Gora were occupied during the pottery Neolithic, and belong to what is known as the Shulaveri-Shomu culture, dating between 6,000 and 5,200 calBC. (Batiuk *et al.* 2017; Japaridze and Javakishvili 1971; McGovern *et al.* 2017; Narimanov 1987; Kiguradze 1986; Lyonnet *et al.* 2016; Hamon *et al.* 2016). These sites are located in the Middle Kura region on the Shulaveris Ghele (a seasonal tributary of the Khrami River) in the Kvemo Kartli region of the Republic of Georgia (Fig. 1). The two sites were first identified in the 1960s in connection with the Lower Kartli Archaeological Expedition of the Georgian State Museum followed by excavations at Shulaveris Gora and other Neolithic sites in the region (Javakhishvili 1973, Javakhishvili *et al.* 1975). Work at Gadachrili Gora began in 2006-7, and was undertaken again in 2012-3 and 2015 again with the Georgian National Museum. The inaugural season of GRAPE followed in 2016 (see Batiuk *et al.* 2017).

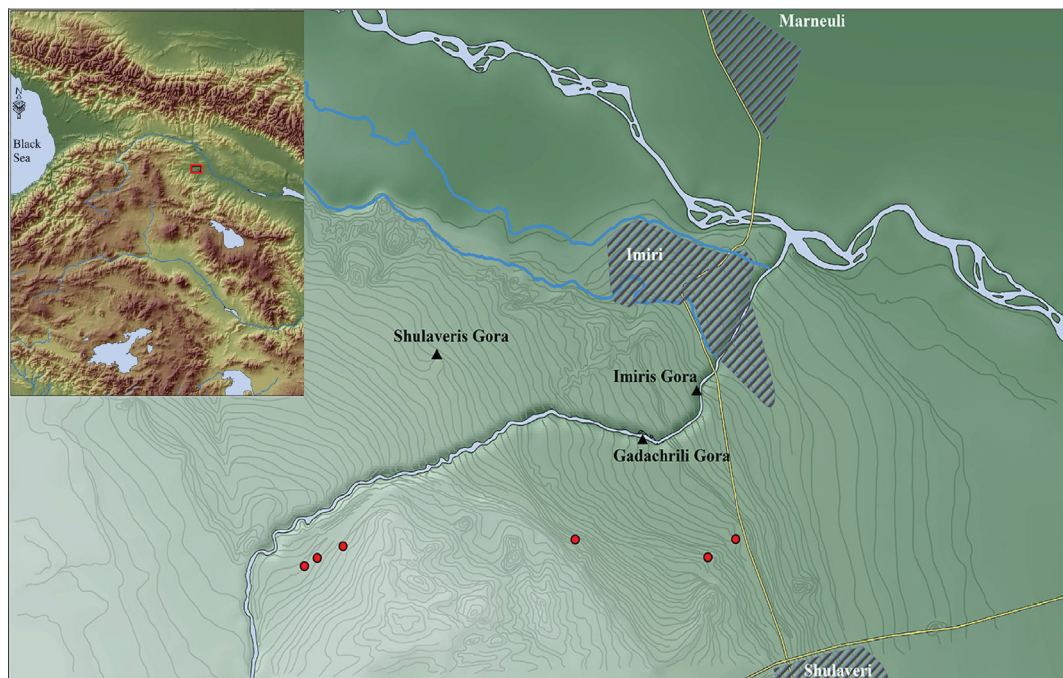


Fig. 1. Map of Marneuli region showing location of Gadachrili and Shulaveris Gora.



Fig. 2. Map of Gadachrili Gora Excavations with all phases (plan by Inga Esvanjia).

eastern side of the site, was considered an especially important operation in understanding the phasing of the transition from the first to the second phase of occupation. Additionally, Square 7, which had produced significant faunal remains as well as atypical ceramics, was subjected to more intensive excavations to understand the nature of its distinct material remains.

The excavations at Shulaveris (Fig. 3) continued in Op 1 to better understand the location of the material remains uncovered in the 2016 excavation in relation to the Soviet-period excavation trench and to investigate the remaining depth of cultural deposits at this location, at the base of the eastern side of the tell. This involved expanding the original test pit into a  $4 \times 10$  m trench to increase the horizontal exposure and connect these newly exposed contexts with the work done in the 1960s, and provide more accurate dates and reveal any earlier phases, while also clarifying the relationship between the new work with the original GNM excavations, the location of which had only been extrapolated from their published top plan in relation to the topography of the mound. Op 2 continued the 5-stage step-trench opened on the SW side of

## THE EXCAVATIONS

The 2017-8 excavations at Gadachrili Gora continued work within most of the same trenches as the 2016 season (Fig. 2), including Squares 2, 7, 10, 11, and 14, with the addition of one new square in the centre of the mound (Sq. 8). The main aims of the two seasons were to achieve larger exposures for both occupational phases to clarify the changes in the use of space over time. Square 14, situated on the



Fig. 3. Aerial photo of Shulaveris Gora showing GRAPE excavations and 1960's Georgian excavation area.



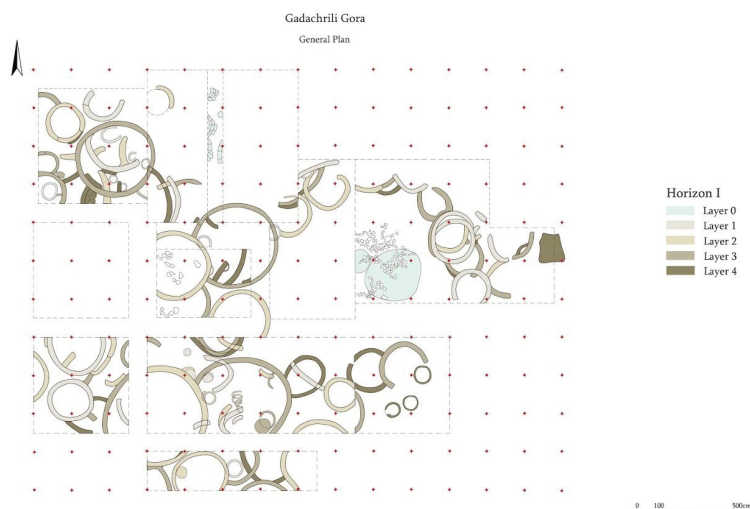


Fig. 4. Plan of Upper Phase of occupation at Gadachrili Gora (plan by Inga Esvanjia).

the mound from the summit to the base to re-establish the cultural sequence at the site, focusing on the lowest levels by expanding the lowermost step (designated as Operation 2, Step 5) into a  $4 \times 5$  m square in 2017, expanding to a  $4 \times 10$  m square in 2018 to obtain more horizontal exposure of preserved archaeological contexts (Fig. 14). Most importantly, the goal for this operation was to reach earlier occupational levels than those recorded in Op 1 and Gadachrilli Gora and explore the potential for future excavations at the site.

### Gadachrili Gora – Upper Phase (Fig. 4)

#### Square 7

The complexity of the deposits in Square 7 (Fig. 5) was noted in the 2016 season. Square 7 demonstrated evidence for *in situ* butchery from the high concentration of faunal remains in its upper-most sub-phase. Excavations here in 2017, focused on the SE portion of the square where the concentration of bone had been observed. The work revealed several laminated layers 15–20 cm in thickness each characterized by relatively abundant flat-lying bones, sherds, and fragments of mudbrick (Fig. 6). These laminated surfaces continued north and abutted a wall fragment, suggesting that this ephemeral layer did contain limited mudbrick architecture. Immediately underneath the architecture, a dark ashy layer extended to the south, thinning out into ash. Below this, a series of thin dark ashy layers stretched across the square to the west but could not be followed consistently to the south. The relationship between the remaining architecture uncovered in the 2016 season and these new surfaces has yet to be resolved.

The high concentration of sherds is atypical and unexpected for the upper phase of occupation at Gadachrili, the reason for which soon became apparent. Some of the sherds (buff chaff-faced ware, dark ware with micaceous temper) were suspected as dating from the Chalcolithic as well as Early Bronze (Kura-Araxes). Careful re-examination of the pottery from the 2016 season, as well as material from the upper fill layers in Square 8 (see below) and from Square 1 revealed a similar pattern. This has led to the hypothesis of an ephemeral and most probably short-lived occupation on the top of the mound that would date to the later part of the Chalcolithic period. Evidence of a Chalcolithic/ Early Bronze Age period burial found in



Fig. 5. Photo of Square 7, Gadachrili Gora (2017 Season).



Fig. 6. Photo of bone and ceramic cache in Square 7 belonging to the ephemeral Chalcolithic level of Gadachrili Gora (2017 Season).

the baulk between Squares 7 and 2/14, which became visible when a portion of this collapsed, would also suggest possible use of the site in the Early Bronze Age, and could explain the identification of Kura-Araxes sherds in Square 7 excavations.



Fig. 7. Photo of Square 8, Gadachrili Gora (2017 Season).



Fig. 8. View of mortar and pestle uncovered in Square 8 (2017 Season).



### *Square 8*

Square 8 (Fig. 7) was a  $3.5 \times 5$  m. trench opened in 2017, sandwiched between Squares 2 and 3 to the south, and 5 and 6 to the north. The principal aim of excavations in this square was to increase the horizontal exposure and link the different areas of excavation, and so provide a more coherent plan of the settlement. The work here began slightly later in the 2017 season than the other squares, and was delayed further by significant rainfall. Removal of the top layers was done quickly, with no evidence of any architectural remains, but still provided significant ceramic material and closer examination showed it to represent the continuation of the same Chalcolithic occupation observed in Square 7. An in-situ grinding stone (Fig. 8) was recovered from the southern part of the trench with a pestle found nearby, as well as a small pit in the southwest corner filled with bones and lithics. These would appear to reinforce the suggestion of this area as a food preparation space.

Continued excavations soon identified a 'step' in the north-western part of the trench that contained significant red sandy material, probably the result of degraded hematite-rich sandstone. A patchy surface covered in the red, gritty material was followed to the south where a small circular mudbrick structure was identified. Within the fill above the red surface, a cluster of rocks was identified, along with a *Bos* scapula, grinding stone and a limited number of small bone tools. A second ephemeral and similarly red-stained surface was found immediately below the first one. The use of this red material for the surface of this structure is presently unattested elsewhere at the site, and the identification of two separate surfaces with the same appearance and texture emphasizes the exceptionality of this structure. Micromorphological samples were taken of these surfaces to obtain a better understanding their construction and use. Excavations to the east of the structure uncovered a series of wall fragments found at a lower level, which did not reveal any associated surfaces or finds. These wall fragments appear to reflect three possible sub-phases of architecture belonging to the first phase of occupation, tightly overlapping in Square 8.

The 2018 season began with the removal of surrounding baulks in an effort to create a more coherent picture of the excavated architecture, beginning with the baulk between Squares 4 and 5, and then between Squares 7 and 2, where the remainder of the Early Bronze Age burial was excavated. Excavation of the North baulk of Square 8 identified an installation in the eastern portion, and a pit in the centre. The western part of the baulk revealed the continuation of a structure that contained the red-sandy material excavated in the 2017 season.

### *Square 11*

Square 11 (Fig. 9) is a  $5 \times 6.5$  m square on the north east section of the excavation area that was first opened in the 2016 season. The end of that season had revealed a series of circular wall fragments and bins, with an apparent 'exterior' space in the southeast corner of the square with a single mud bin. The bin was filled with mudbrick tumble, overlain by thin loose sediment, with a clay underside. Excavation of the surrounding 'exterior' fill deposit produced two concentrations of bone and large ash pockets. The bone concentrations along the west baulk of the square were revealed to be within a series of small pits. The baulk also revealed a few fragmentary mudbricks that might represent a lower phase of architecture in that part of the trench, which has yet to be identified.

Investigation of the fill layer between the central wall fragments revealed animal disturbance, but did yield an articulated in-situ sheep forelimb, and a complete bone spoon was just below a thin ash lens (Fig. 10). Continued excavation revealed the bottoms of the surrounding walls. The interior space on the east side of the square sealed against the south central wall was excavated to expose the bottom of the wall on both faces. These walls were built on a darker layer of soil. The removal of the two bins contained within the wall fragments produced evidence for burning, followed by a soft silty layer dense with phytoliths, followed by an equally soft level of cobbles around the edges, atop a layer of larger angular cobbles and mudbrick, pottery and stone tools being found around the edges of the pits. The interior of the eastern-most structure was excavated and revealed the wall to be substantially deeper and presumably earlier than the surrounding architecture. The interior of this structure has so far revealed a very low density of material, but no associated surface has been identified.



Fig. 9. Photo of Square 11, Gadachrili Gora (2017 Season).



Fig. 10. Detail of "Foundation Deposit" found in Square 11, Gadachrili Gora (2017 Season).

At the end of the 2017 excavation season the main upper sub-phases of walls were removed. Immediately below the western-most wall, a cache of bones, lithics, and bone tools was found. The cache consisted of articulated sheep forelimbs, seven obsidian blades, a piece of chert, five bone awls and a piece of charcoal. The nature of this deposit is unclear, but its concentrated nature immediately underneath a wall is suggestive of a foundation deposit of some kind.

Continued excavation in the 2018 season consisted primarily of the removal of architecture uncovered in the previous seasons, in an effort to understand the earlier sub-phases. The overall changes in the use of space over the three sub-phases suggests a move from large laminated surfaces with ash concentrations to more architecturally subdivided spaces with many small bins with a focus on storage. The lower phases also produce higher concentrations of in-situ material, and might suggest that it may have been the main phase of occupation with the focus of the upper-most phase was storage.

### *Square 10*

This 5 × 5 m square (Fig. 11), originally opened in the 2016 season, is situated on the south western corner of the excavations, and shares a baulk and architecture with the upper phases of Square 3. The delineation of architecture identified in the 2016 season was significantly hampered by the proximity of the mudbrick architecture to the surface. Even so, excavations in 2017 more clearly revealed three roughly equal-sized adjacent structures and the western-most section of the large building identified in Square 3. The northern-most structure showed two sub-phases directly on top of each other. A concentration of stones was uncovered in the southern-most part of the building, sealing a ovi-caprid scapula fragmented by the weight of the stones. Further work revealed a fragmentary and earlier wall on the east side separated of that original in 2016. Separated from the eastern face of that wall by only a few centimetres, it runs parallel to it for 2.3 m, until it curves and goes under it. An exterior surface was identified against the eastern face of this earlier wall, which appeared to extend to the south but is cut by the construction of the central structure, while sealing against a smaller wall fragment. The interior of the central room preserved a patchy surface that contained a few random flat lying sherds and obsidian blades. The northeast corner of the trench preserved a wall fragment that runs into the east baulk and continues into Square 3. A final wall arc was found in the western end of the trench, representing another structure of a similar size to others in the square.

A higher than usual amount of ceramics for the upper phase of occupation came from Square 10, a number with applique decoration, and a concentration that represent a restorable pot. Surprisingly, few bone tools were found in this square but in contrast it is the only one to produce a few beads, all made of a very soft calcite.

### *Square 15*

Square 15 is a 5 × 5 m trench, situated immediately to the west of Square 8 and south of Square 11 and was opened in 2018 with the aim of identifying more of the ephemeral Chalcolithic layer, and to increase exposure of the upper phase of occupation. Just below topsoil, in the north portion of the square, was a small collapsed semi-subterranean pyrotechnical structure of a probable medieval date. Further to the south, un-stratified chalcolithic sherds were found in the fill layers, revealing the western most extent of the ephemeral Chalcolithic occupation. Continued excavation in this area revealed fragments of collapsed mudbricks that speak to the potential of Neolithic occupation in this trench that was not reached by the end of the season.



Fig. 11. Photo of Square 10, Gadachrili Gora.



Fig. 12. Photo of Square 16, Gadachrili Gora (2018 Season).

### *Square 16*

Square 16 is a 9×2 m trench that was opened in 2017 (Fig. 12). It runs along the south side of Squares 2 and 3 that were excavated in previous seasons, with the goal of tracing the site further south. Excavations in this trench revealed a number of large circular mudbrick structures. We have part of two structures in the eastern portion of our trench, a 2.5×2.5 m. structure closer to the centre, and the corner of a large structure in the east side of our trench. The wall on the east side belongs to a massive 6 m. structure that runs through squares 3 and 10. In addition, we have two smaller compounds that abut the circular structures. There also appears to be two connecting walls that may have been built to provide additional structural support.

The architecture uncovered in 2017 appears to belong to a single phase that is at level with the later Neolithic occupation at this site. No evidence of the chalcolithic phase that was present in the northern sections of Gadachrili Gora was found in Square 16. The 2017 season, although uncovering significant architecture, did not produce significant artefactual remains. However, the material that was recovered, included grindingstones, obsidian blades from unidirectional cores, and SSC pottery.

The 2018 season further clarified the architecture, fully delineating the fragment of the large mudbrick structure that runs north into Squares 3 and 10, and the associated surface. An abutting southern structure was also identified of a more diminutive nature. To the east, the two smaller structures were more clearly delineating, 2.5 m circular structures and associated storage bins as well as additional later fragmentary circular structures.

### **Lower Phase (Fig. 13)**

#### *Squares 2 & 14*

Squares 2 & 4 represent the south-eastern most portion of the site, both having been excavated in the 2016 season (Fig. 14). In 2016, the baulk between Square 2 and Square 14 was removed, as a result the squares were strategically treated as one square in 2017. One of the primary problems remaining from the previous season was the poor stratigraphic preservation vis-à-vis the sterile green clay layer that separates Phases 1 and 2 that had been identified all over the site (Hamon *et al.* 2015: 2-3, Batiuk *et al.* 2017). Relative depths suggested the lower phase of occupation should have been reached in the 2016 season, although the green layer, separating Phase 1 from 2, had not been properly identified. Careful cleaning of the north and south sections of Square 2 (Fig. 15) eventually identified a very thin and patchy representation of the green layer that separates the two phases, which had eluded the previous year's excavations.





Fig. 13. Plan of Lower Phase of occupation at Gadachrili Gora (plan by Inga Esvanjia).

of the larger mudbrick compounds in Square 3. The structure was bisected in excavation to recover the pot and reveal the context in which vessel was deposited. The pot appears to have been covered in a layer of burning. Excavation also revealed that the vessel was actually below the structure, not within it as had originally been thought, and sitting on a sloping deposit. It was extracted and taken to the Georgian National Museum for careful examination of its contents.

At the beginning of the 2017 season, the tops of three bin installations were clearly visible in Square 14, and a series of small circular structures were visible in Square 2, and the aim was to excavate and remove these three bins and structures, and then continue excavating further downwards, bringing the two squares into phase. Excavation of the fill layers in the north end of Square 14 continued in order to reveal the depth of the bins visible at the end of the



Fig. 14. Photo of Square 2, 3, & 14, Gadachrili Gora (2017 Season).

Fig. 15. Photo of Square 2 showing sounding and section cleanings to identify the green deposits found between the main phases of occupation at Gadachrili Gora (2017 Season).



Just below the large circular structure, a thin 2 cm lens could be observed, suggesting that these larger structures had been constructed upon the first resettling of the village in its second phase of primary occupation. In the 2018 season, a portion of Square 2 was re-opened to recover a possible intact pot that was discovered at the end of the 2017 season but was not excavated due to time constraints. Our expectation was that it was sitting on a floor surface of the structure that was abutting one

2016 season. The surrounding soil produced a comparatively larger proportion of bone tools, particularly awls with evidence of use-wear on a rotational axis, and burnishers which might be suggestive of use in skin-processing (see below). Factoring in the concentration of “bins” in Square 1 with the associated “bins” in Square 14 and the faunal data, there is a hint that the difference in spatial organisation of the lower phase first observed by Hamon (Hamon *et al.* 2015: 14) might reflect a different functional use of space on the eastern side of the settlement.



Fig. 16. View of Op1 at Shulaveris Gora from the west.

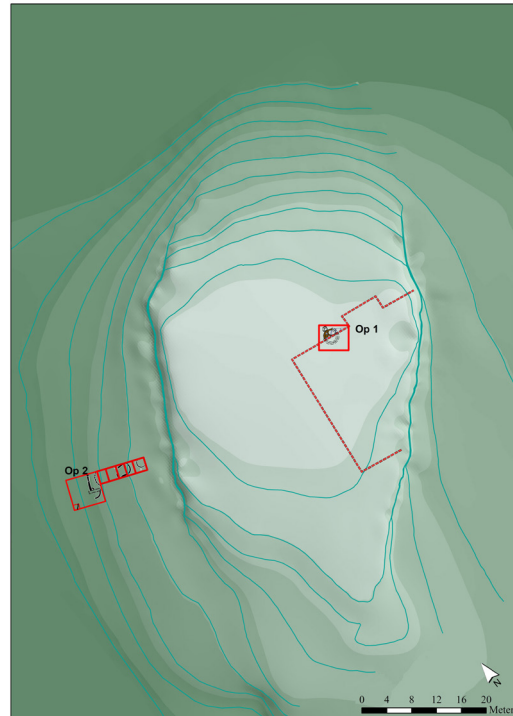


Fig. 17. Plan of Shulaveris with proper orientation of new trenches to old Soviet excavations.

## Shulaveris Gora

### *Operation 1*

The primary focus at the start of our work in 2017 was to expose further the architectural levels reached in 2016 (Fig. 16). Immediately to the east of the original 2016 test pit, an intact archaeological context was revealed. This context was distinguished by a light yellowish soil of firm consistency in association with some ash pockets and a large amount of burned and unburned bone. The presence of hardened clay, ash pockets and burned bone suggests this deposit was formed by the cleaning of the oven or hearth feature identified in the 2016 season, and which appears to be associated with the interior of a structure identified by a wall fragment that showed evidence of remodelling at the time at the time the hearth had been constructed.

A secondary probe was initiated immediately south of the 2016 test pit. This revealed a homogenous brown coloured soil of a much looser consistency than expected for topsoil which produced an excessive amount of modern contamination (iron, cement, plastic). What



rapidly became apparent was that the material represents the backfilling of the original GMN excavations of the 1960's. More intensive cleaning of the area allowed for a clearer delineation of the old trench cut running diagonally through the square instead of lining up with the baulks. As the soundings were aligned with the eastern face of the modern mound as it is today, and the 1960's GNM excavations were oriented to magnetic north, there was a discrepancy in alignment which was finally observable with the identification of the old excavation trench our soundings (Fig. 17).

A radiocarbon date obtained from the hearth feature excavated in the 2016 season (see below) suggested the structure was later in the Shulaveris Gora sequence than had been anticipated. After in-depth considerations of the material from Operation 1 and the original GNM excavation report it was determined that the operation had established nine phases of occupation at Shulaveris Gora before reaching virgin soil, at a depth of approximately 3.5 m below surface level. Since the most of the old 1960's GNM trench is within Square 1 and backfilled to a depth of 3.5 m on top of virgin soil, it was determined there would be no architectural or artefactual contexts preserved in this area, and the 2017 trench was abandoned.



Fig. 18. Detail of mudbrick wall identified in western portion of Op2 at Shulaveris Gora.



Fig. 19. Aerial view of expanded trench in Op2 at Shulaveris Gora (2018 Season).

### *Operation 2*

After removing the topsoil, a test pit in the southwest corner of the trench was excavated to a depth of 12 cm where a series of ash lenses containing small (1-2 mm) white pockets, likely the remnants of phytoliths, was encountered. These ash lenses were interlaid with layers of light yellowish material, possibly the remains of collapsed mudbrick or burnt clay. Continued excavation in the test pit revealed the top of a yellowish brown semi-circular mudbrick feature. Both the interior and exterior fills produced a large concentration of phytoliths. In the north baulk, two further layers of white phytolithic material were observed separated by a layer of reddish clay. Excavation in the exterior wall fill produced a dense concentration of ceramics and animal bone in the northeast corner and a large bovid bone along the south baulk.

The remainder of the square was excavated to a depth just above where architecture had been exposed in the test pit. The area revealed a potential continuation of the wall, outlined by phytoliths or crushed limestone, along the north end of the east baulk. A curved mudbrick feature with clearly identifiable bricks was identified projecting from the east baulk (Fig. 18). Outside this wall, a very dark brown ashy layer was identified which continued west until it was cut by a modern trench. In the southwest, a portion of a mudbrick bin was identified. Both the bin and the eastern wall are stratigraphically lower than the original wall found in the test pit.

In the final days of the 2017 season, a 1 × 1 m sounding in the extreme southwest corner of the square was dug to obtain a preview of the stratigraphy in the western portion of the square. This sounding was dug to a depth of 18 cm before mudbrick features were encountered in the shape of a potential curvilinear feature.

Excavations in 2018 sought to expose more of these features and assess its relationship to other features revealed in 2017. As a result, the trench was expanded (Fig. 19), and a total of three phases of architecture was exposed. The uppermost phase – comparable to Phase V of the Shulaveri sequence in Javakhishvili and Japaridze (1975) – was exposed in step 4 of the 2016 step trench and consisted of a series of overlaying fire pits, cleaning deposits, and hearth features.

The middle phase (Phase VI of the Shulaveri sequence) exposed originally during the 2017 excavation season and consisted of two partially preserved walls and one intact circular structure. The earliest phase (comparable to Phase VII of the Shulaveri sequence) consists of a wide horizontal exposure of five circular structures, and one bin. Three of these structures were connected by small abutting walls creating a discrete compound. Sub-phases within this phase can be identified based on the relationship between exterior soil deposits. An interesting feature of the round buildings at Shulaveris Gora in comparison to Gadachrili, is that all excavated structures contain small boulders or large cobbles in the interior fills and surfaces. These large rocks could have been used to support posts or used in the processing or manufacture of food or tools. Further excavation is required to investigate the soil layers these rocks are resting on.

Shulaveris Gora underwent a series of modern activities that greatly disturbed the Neolithic occupational levels. These modern activities are best represented by the cut observable in the south section of 2016 Step 4 which was then filled by modern topsoil. This cut is likely the result of bulldozing or other cutting activities to reduce the slope of the mound to extend viable field space for farming activities. Afterwards the mound was cut by a series of irrigation canals (with visible impressions of hoses or tubes running through them) extending into the Neolithic levels, severely damaging the structures of Phase VI and scraping the tops of the structures of Phase VII. After these ploughing activities the top of the mound was partly levelled probably to create a flat surface for the road running north-south across the top of the tell. Due to the excessive amount of Neolithic material (pottery, lithics) and modern refuse (iron, asbestos, plastic) found in the upper loci, it is likely that the material cut from the top of the tell was deposited off the side and over the cuts for the irrigation canals. These types of modern activities also likely suggest that Square 2 is not positioned at the edge of the mound, but instead closer to the centre. This idea is further supported by the fact that all the architectural features excavated are not constructed on a slope, but instead appear to all be constructed on a flat surface at roughly the same level. Walking the fields to the east seem to suggest that the mound itself might have originally continued for another 18m to the west, suggesting that Shulaveris Gora was significantly larger than its present shape indicates.

## Chronology

The radiocarbon dates from the Soviet excavations of the 1960's and 70's obtained from the sites of Shulaveris Gora, Imeris Gora, and Khramis Didi Gora (Burchuladze 1968; Burchuladze *et al.* 1975; Japaridze *et al.* 1975; Kiguradze 1976; Chubinishvili and Chelidze 1978; Chataigner 1995), together with four radiocarbon dates recovered from the 2015 and 2016 excavation seasons (2 from Gadachrili and 2 from Shulaveris Gora) were recalibrated and compared (employing the IntCal13 atmospheric curve cf. Reimer *et al.* 2013), and incorporated into a Bayesian model (Bronk Ramsey 2009) to create a comprehensive sequence for the region (Batiuk *et al.* 2017). Subsequently, a more comprehensive model was created utilizing three dates from the earlier Gadachrili excavations (Hamon 2016) and an additional five dates obtained from the 2017 season. These samples have modified the previously published chronological interpretations (see McGovern *et al.* 2017). Kiguradze (1976) had first developed a five-phase chronological model for the SSC based on the early radiocarbon dates from the Shulaveri cluster of sites and Khramis Didi Gora. The new analysis provides a series of dates that cover the full 6<sup>th</sup> millennium (median dates 5986-5048 calBC), which is consistent with radiocarbon dates from Azerbaijan (Nishiaki 2015) and roughly agrees with Kiguradze's original model. The radiocarbon sample obtained from the hearth feature in Operation 1 of Shulaveris Gora proved to be contemporaneous with the lower phase of occupation at Gadachrili Gora (approx. 5985-5685 calBC). This sample has also provided a date for the context which may represent evidence for the earliest use of honey (Kvavadze *et al.* in prep). The radiocarbon sample from Step 5 of Operation 2 also provided the dating of the context producing the earliest positive for evidence of wine (McGovern *et al.* 2017). As the 2017 and 18 seasons showed there are still additional levels at Shulaveris Gora that remain to be examined, it suggests that the

Kiguradze's five-fold model should be expanded to six phases (Fig. 20), one that perhaps goes into the late 7<sup>th</sup> millennium. The chronology of the sites in the Shulaveri Cluster reveals a pattern of rotating settlement occupation among the sites over a period of close to 800 years, a pattern again paralleled with the settlements in Shomu Tepe Cluster in Azerbaijan. Given the generally tight spatial distribution of these settlements with differing periods of occupation, it might represent a single community migrating from one settlement to another over a millennium of occupation. Additional radiocarbon dates are required from the upper phase of occupation at Gadachrili, but the present data suggests a gap in occupation between the known phases, which may reflect a migratory community returning to Gadachrili Gora after a period occupying another settlement. The main exception to this observed pattern would be Shulaveris Gora, apparently continually occupied throughout the 6<sup>th</sup> millennium.

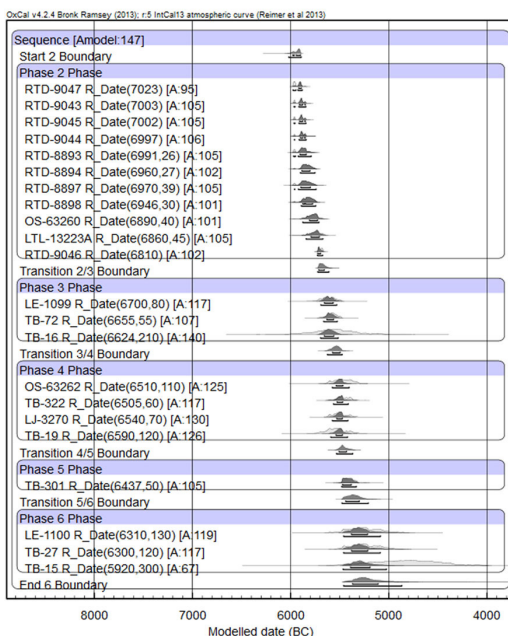


Fig. 20. Radiocarbon sequence of Shulaveri Cluster (from McGovern *et al.* 2017).

## Interim Faunal Report

During the 2017 field season, the GRAPE team recovered over 4000 faunal samples from Gadachrili Gora and Shulaveris Gora. The number of specimens (NS) from Gadachrili Gora was 3212, while the NS from Shulaveris Gora was 817 for an overall total of 4029. Preliminary analysis indicates that throughout all phases of occupation the main food animals represented were ovi-caprines, pigs, and cattle. There are some slight differences in frequencies during different phases, but the pattern overall is fairly consistent.

Some slight differences observed between the sites and time-periods included the fact that small numbers of fish bones were recovered from Shulaveris Gora in 2017, while Gadachrili Gora produced no fish remains. Another apparent difference between time periods is that the faunal remains from the newly identified Chalcolithic phase at Gadachrili show much more evidence of gnawing and digestion by carnivores, whereas the Neolithic fauna shows very little such evidence at either site, perhaps suggesting a different depositional regime and use of space during these two time periods.

Other differences can be observed in the distribution of skeletal elements when considered by anatomic region. Element frequencies reflect the butchering and food transport decisions of prehistoric people and as such are an important aspect of economic faunal analysis and while the preliminary nature of this report limits its interpretive power, it has become apparent that the differences observed between sites and time periods suggest that further analysis may reveal significant variability in economic behaviour. Initial observations suggest that the use of space for butchering and cooking activities differed most significantly between the Neolithic and Chalcolithic periods, with more primary butchery occurring on-site in the latter period.

The bone tool assemblage from the GRAPE 2017-8 field season consists of over 40 objects, primarily classified as awls (Fig. 21). The majority of these tools are made on the distal end of the split metapodia of ovi-caprines, with each tool preserving a single condyle. Both fused and unfused bones were used for making these tools, indicating that they were fabricated on fresh bone and suggesting a short use-life with discard occurring before the unfused condyle separated from the metapodial shaft. These tools show use wear in the longitudinal axis, as if used for piercing, but more noticeably in a rotational axis, as if they were also used perhaps to pierce hide and then rotated to create a distinct hole, possibly for lacing in clothing production. Also present in the assemblage are a class of tools generally described as spatulae, which are wider, blunt-nosed tools exhibiting use-wear along the longitudinal axis, perpendicular to the presumed working edge of the distal end. Traces of the fabrication process remain on some of the tools, primarily in the form of diagonally-oriented scars indicating removal of cortical bone from the lateral edges of the bone



Fig. 21. Photo of bone awls found in Gadachrili Gora excavations.



towards the distal end, presumably to increase the symmetry of the working end. The presence of possible bitumen residue on at least one of these tools suggests that they may have been hafted into a handle during their use-life. These tools may have been used in hide preparation, and perhaps in ceramic fabrication, however further analysis is required to determine function more definitively, as with the awls. One fragment of a possible bone projectile point was also recovered from Gadachrili Gora in 2017. This object represents the broken and burned tip of a sharply pointed and carefully crafted cylindrical piece of thick cortical bone. Similar objects recovered from other Shulaveri-Shomu sites, generally ca. 10 cm long and pointed at both ends have been interpreted as potential projectile points (Badalyan *et al.* 2007: 49).

While the great majority of bone objects from the GRAPE 2017-8 excavations were utilitarian tools (Fig. 22), there have been several decorative objects recovered in the past two seasons. There was a pendant made on a boar tusk found at Gadachrili Gora in 2016, as well as a large bone bead, made from a fish vertebra with a hole drilled in the centre (Fig. 13d, pg. 193, Batiuk *et al.* 2017). In 2017, two more of these objects were recovered from Shulaveris Gora, perhaps reinforcing the notion of cultural linkages between these sites. A similar object was found at Aknashen in Armenia, another Shulaveri-Shomu site (Badalyan *et al.* 2010: 220, Fig. 14.7), perhaps extending this linkage to the regional level. The specific identity of the bone itself is undetermined at present, but preliminary analysis based on size and morphology suggests these are vertebrae of very large catfish (cf. *Siluris glanis*). The interpretation of these objects from the GRAPE excavations is somewhat unclear, however a similar object found at the Morhiss site in Texas (Campbell 1976) has been interpreted as an earspool, although the cultural context is clearly different. At Shulaveris Gora, evidence of Neolithic flax fibre-production (Kvavadze *et al.* 2014) may suggest the use of these vertebrae as spindle whorls (Barber 1991). Their relatively light weight may however suggest that they were more suitable for production of fine fibres (e.g. wool – see Sudo 2010), although there is presently no other evidence for this phenomenon from the GRAPE excavations.

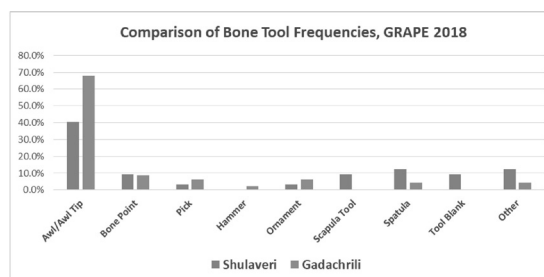


Fig. 22. Chart of Bone Tool Frequencies.

#### THE GADACHRILI GORA REGIONAL ARCHAEOLOGICAL SURVEY (GGRAS)

The survey work began on the 25<sup>th</sup> of April 2017 and was carried out on a daily basis until the 5<sup>th</sup> of May 2017. After then, the survey was carried on intermittently throughout the remainder of the GRAPE season. The primary survey team was composed of Khaled Abu Jayyab (Survey Director), Gia Chilingarashvili, Arno Glasser, and Levan Losaberidze.

The survey had a number of objectives. First, to examine the settlement history of the region in greater detail following the work of Javakhishvili and Japaridze (1975), with a more general focus on the Neolithic, Chalcolithic and Early Bronze Age settlement history. Second,

to examine the relationship between the highlands and lowlands in this topographically and ecologically diverse region. Relations between highland and lowland areas during these time periods are inferred from a number of factors, namely wine production, herding practices, and obsidian procurement.

The GRAPE project has been examining the development of horticultural practices during the Neolithic, with particular attention paid to the origins of wine production – a process which may have involved the utilization of highland caves in the fermentation process (as attested in Chalcolithic/ Early Bronze Armenia: Areshian *et al.* 2012). Additionally, the use of obsidian in large quantities at both Gadachrili Gora and Shulaveris Gora coupled with the increased importance of herd animals may suggest that the focus of the groups inhabiting the Shulaveri River valley were, at least partially, oriented towards the highlands where the major sources of obsidian are found. As such, examining the paths that connect the lowland plains along the river valleys draining the highlands is one of the priorities of our efforts.

The third and fourth objectives of the survey are of no less importance but devoted more to the region in the context of modern archaeology. Thus the survival of and threats to the surviving archaeological heritage of the region form the third aspect of the survey. In this context, road construction has long been an issue with the frequent concomitant damage to sites, but modern construction of buildings, or field reclamation works is also rapidly destroying more and more ancient settlements. Hence the need to document the damage occurring at settlements with drone photography (particularly visible with GGRAS026 – Fig. 23), and to provide a record for local authorities to track and work with locals to halt further destruction of the ancient landscape.



Fig. 23. Aerial photo of Neolithic site GGRAS026, showing damage done by road and building construction.



The fourth objective is directly connected to this need to observe and record the archaeological heritage by providing our students participating in the field school with a unique experience that complements their education in excavation field methodology, giving them an understanding of the broader regional context of their work, and a methodological understanding of survey archaeology. The value of this educational program is highlighted by a secondary complimentary survey project – the Marneuli Survey Project, initiated in the fall of 2017 by two local graduate students (Levan Losaberidze and Giorgi Chilingarashvili) in the area to the north of our primary survey zone (see below).

### The Survey Universe

The survey region encompasses an area of 240 km<sup>2</sup> delimited by the Khrami River to the north, the Debeda River to the east, and the mountain foothills to the south and southwest. This region is composed of flat agricultural plains cut by three perennial valleys originating in the highlands running roughly from the south/southwest towards the northeast (the Shulaveri, Saghzaghani, and the Talaveri rivers), and a hilly mountainous region to the south and southwest, these valleys providing a series of passages through the entire the mountain range.

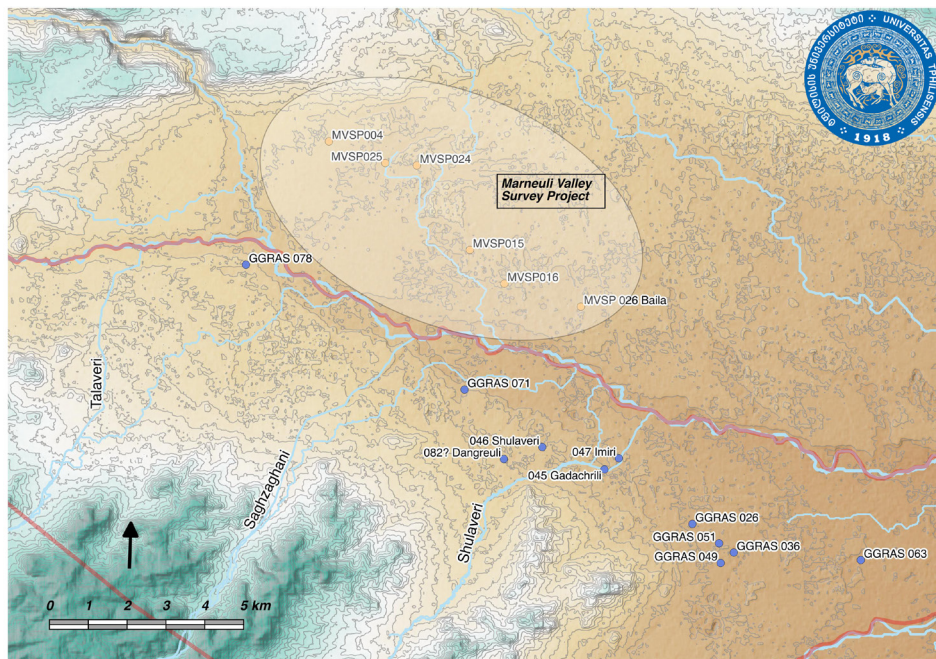


Fig. 24. Map of GGRAS Survey region showing different zones and sites identified in the 2017 season.

The morphology of the region has been divided into a number of sub-regions between lowland flats and highlands (Fig. 24) as a means to facilitate future analysis. In total seven zones were identified, numbered from west to east. Zone 1 is primarily a hilly area that encompasses the area where the Khrami River transitions from its narrow restricted highland bed to the

open plains and represents a transitional zone between the highland and lowlands. Zones 3, 5 and 6 are hilly highland zones separated by the above-mentioned perennial valleys. The Sagh-saghani Valley represents the demarcation between Zones 3 and 5 while the Shulaveri separates Zones 5 and 6. Zones 2, 4 and 7 are all bounded by the Khrami River flood plain to the north and are all rich agricultural areas divided today into a patchwork of agricultural fields used for wheat cultivation in addition to various types of vegetables. Zone 7 is a fertile flood plain at the confluence of the Khrami and Debeda rivers, which makes it a region of high archaeological potential.

## Methodology

Methodologically the diverse topography of the region – encompassing flat agricultural plains and hill country – allows us not only to explore the history of occupation and intra/interregional communication networks but also to test different survey detection methods and techniques, given how the discrepancy in topography (highlands vs. lowland plains) precludes the application of a unified detection method across both regions (see Banning 1996). Therefore, a methodology was developed that involved as an initial step was to identify areas of interest through satellite imagery, namely GoogleEarth. As such, areas exhibiting soil discoloration, mounded uncultivated areas, and any anomalies that were observed were marked for ground-testing. This methodology was successful, with only eight of 53 site locations identified as false-positives. In addition to ground-testing, where possible a series of transects were carried out in unplanted/fallow fields.

In the highlands, a few rock shelters, plains, and natural hills overlooking river passages were investigated. The visiting of rock shelters was entirely opportunistic based on detection while in the field. In the future a high resolution DEM will be utilized in order to delimit areas suitable for habitation and activities within the highlands, based on topography, slope, and the availability of water, while, for detecting possible caves and rock shelters, geological zones where such features may proliferate will be demarcated. Finally, an important step would be to obtain Soviet period aerial imagery in the collections of the GNM in order to assess the degree of alteration that has affected the landscape as a result of large scale farming practices.

The vegetation cover of the area affected the collection strategy for survey. During this time of year (May/June), this region has a dense vegetation cover both in terms of agricultural and wild flora. On sites which were targeted for ground-testing, and where vegetation was dense and visibility was low, long random collections were conducted across the entire site. To supplement this strategy, adjacent fallow fields were surveyed to build an understanding of activity around these sites. In the fields, transects spaced five metres apart were conducted across the entirety of the empty or freshly ploughed field. This spacing was undertaken in order to achieve the best coverage possible, and the entire width and length of the uncultivated fields were walked.

The definition of a site is debated in archaeological discourse, especially in the context of surveys (see Banning 2002). Within our survey, four categories of archaeological sites were defined:

1. Habitation sites: Goras (mounds), and flat lying lands with high density of material remains;
2. Activity areas: usually field scatters with low to medium density of artefacts and with an undetermined function;
3. Cemeteries: usually 18<sup>th</sup> and 19<sup>th</sup> centuries;
4. Kurgans: burial mounds.

### **Preliminary Results**

In total, 62 sites were found during field survey in 2017, which is a considerable return considering the short duration of our efforts. One of the more pressing concerns we identified is the rapid rate of destruction taking place at many sites due to the expansion of farming and industry.

The most significant result however is the identification of a number of Neolithic and Chalcolithic sites in the area between the villages of Kirmizkendi, Kveda Metsamula, and Araplo (GGRAS026, GGRAS036, GGRAS049, GGRAS051). In their work, conducted in the region in the late 1960's and early 1970's, Javakhishvili and Japaridze (1975: 9) mention the presence of four or five Neolithic sites south of the village of Kirmizkendi without reporting any detail. This has since become known as the Kirmizkendi (alternatively Tseteli Sopeli) Cluster. The provisional identification of another cluster of Neolithic sites here parallels the patterns emerging in SSC settlement, best observed with the Shulaveri Cluster (including Shulaveris Gora, Gadachrili Gora, Imeris Gora, and Dangreuli Gora) as well as the Azerbaijani Cluster (including Shomutepe, Göytepe, Mentesh Tepe and Tjore Tepe). Whether the Kirmizkeni Cluster represents the same phenomenon of shifting settlements (see above) however, has yet to be determined.

Another significant outcome was the identification of a number of Chalcolithic sites (GGRAS024, GGRAS046, GGRAS049, GGRAS054), most likely belonging to the so-called Tsopi culture. It seems that the pattern of the Chalcolithic occupation might closely follow that of the Shulaveri-Shomu Culture as all these sites fall within the Kirmizkendi Cluster area. This could be further supported by the presence of Sioni ceramics in the upper level of Shulaveris Gora and in the ephemeral occupation at Gadachrili Gora.

In the fall of 2017, two Georgian team members of GGRAS: Levan Losaberidze and Giorgi Chilingarashvili, from Tbilisi State University, initiated a secondary survey. The new survey region, approximately 53km<sup>2</sup> is located in the north-western portion of the Marneuli valley, just north of the Primary GGRAS survey territory (Fig. 25). This territory was partially surveyed during the 'Kura in Motion Project' (Lyonnet 2017) but the accidental discovery of a previously unknown Neolithic site in 2016 precipitated this survey. The survey followed the same protocols as GGRAS, first mapping settlements in GoogleEarth and ground-testing, which resulted in only 4 out of 17 settlements being false-positives. Thirteen sites in all were identified, with at least three (and perhaps a fourth) identified as Neolithic settlements. This identification of yet another Neolithic cluster (the Parizi Cluster) adds to the growing pattern of tight clustering of SSC settlements in Middle Kura region.

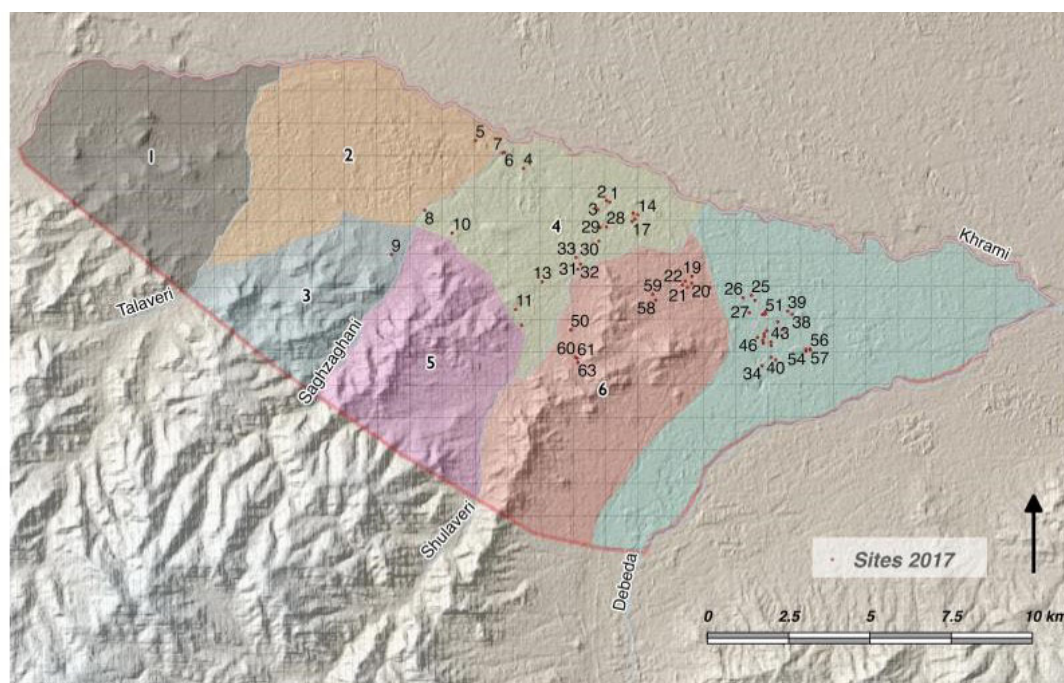


Fig. 25. Map of Marneuli Survey Project region and Neolithic sites identified in 2017 (Map by Giorgi Chilingarashvili, and Levan Losaberidze.

## The Ceramic Assemblage

Based on the ceramic evidence, the ephemeral occupation found in trenches 7 and 8 at Gadachrili Gora could potentially date to the Late Neolithic/Early Chalcolithic (LN/EC hereafter). This report will focus on presenting the material from the aforementioned phase, and comparing and contrasting it to the Neolithic ceramic industry. Moreover, some of the ceramics recovered from square 7, presented in a previous report (Batiuk *et al.* 2017), will be reassigned to the LN/EC phase.

The total number of sherds collected from Gadachrili Gora over the 2016 and 2017 seasons amounts to 1010 sherds, of which 391 were recovered from the newly identified ephemeral level, with only 34 diagnostic sherds. The Neolithic occupation phases (Phase 1 and 2) have so far produced 619 Neolithic sherds with 33 diagnostic. This remains a frustratingly small number as Gadachrili continues to produce very little in regards to Neolithic ceramic material. However, in comparison, the LN/EC levels, excavated in only two squares so far, seem to produce higher concentration of ceramics than the remaining six squares of Neolithic occupation.

Relative to the Neolithic, potting practices attested in the LN/EC at Gadachrili Gora are more diverse in all aspects of the production sequence. This can be seen in clay selection and processing, range of forms, decoration practices, and surface treatment. This report aims to highlight the variation and continuity in potting practices between the Neolithic and LN/EC at the site.



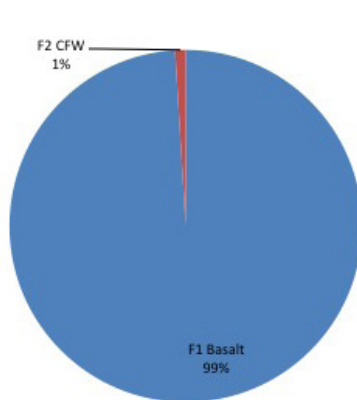


Fig. 26. Fabric frequencies from the Neolithic Levels at Gadachrili Gora (n: 620).

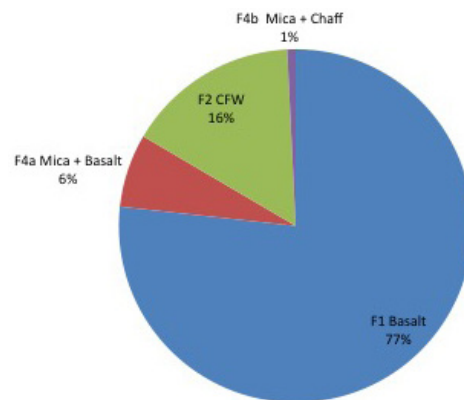


Fig. 27. Fabric frequencies from the Chalcolithic Levels at Gadachrili Gora (n: 391).

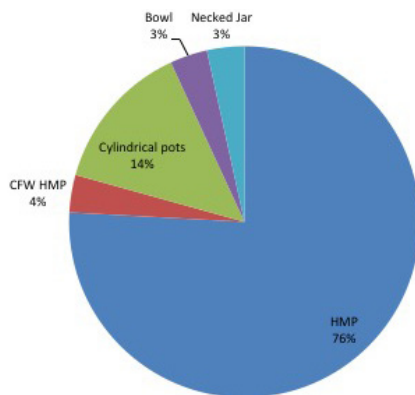


Fig. 28. Vessel form frequencies from the Neolithic Levels at Gadachrili Gora (n: 29).

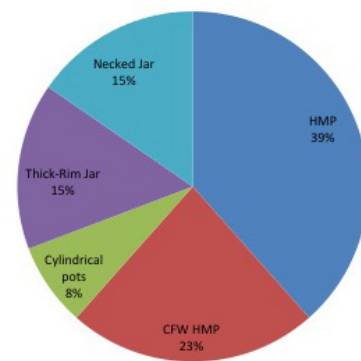


Fig. 29. Vessel form frequencies from the Chalcolithic Levels at Gadachrili Gora (n: 26).

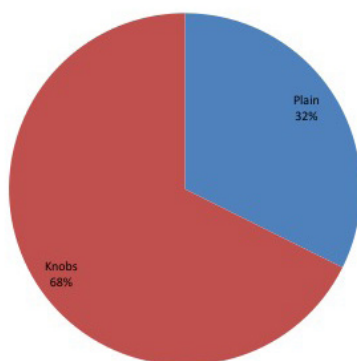


Fig. 30. Decoration frequencies by type from the Neolithic Levels at Gadachrili Gora (n: 33).

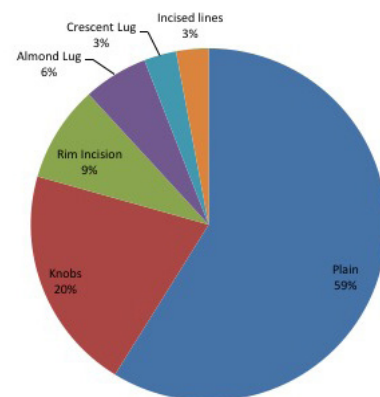


Fig. 31. Decoration frequency by type from the Chalcolithic Levels at Gadachrili Gora (n: 34).

### *Fabrics*

The Fabric groups were discussed in more detail in our previous report (Batiuk *et al.* 2017). The new excavations revealed a new fabric group F4, which is characterized by the presence of mica in the clay matrix. This new fabric group is restricted to the upper levels of squares 7 and 8 and coincides with the ephemeral LN/EC occupation surfaces uncovered in 2017. Fabric group 4 can be further sub-divided into F4a and F4b, the first containing in addition to mica, coarse and medium-sized basalt inclusions, while F4b is characterized by the addition of vegetal temper.

The Neolithic Shulaveri-Shomu assemblage is dominated by fabric F1 (a and b), exemplified by the heavy presence of basalt inclusions in the clay matrix (Fig. 26), with very few chaff tempered, or Chaff Faced Wares (CFW hereafter), which only appear at the tail end of the occupation of Phase 1 (n: 6). Basalt dominated fabrics still form the majority of the fabrics within the assemblage during the LN/EC occupation (Fig. 27). However, alongside the introduction of mica fabrics, there is a significant increase in CFWs; from 1% during the Neolithic to 16% during the LN/EC occupation.

### *Vessel Morphology*

No complete forms were found from either of the three occupation phases at Gadachrili Gora. Additionally, few bases enter the analysis due to the sampling protocols for residue analysis, which skews the representation of diagnostic material. This is especially true for the Neolithic period.

The characteristic form observed for the Neolithic (Diagnostics n: 33) is the basalt tempered Hole Mouth Pot (HMP hereafter) (Fig. 26) predominantly with decorative knobs on the rim and the body (Fig. 32: 1-6). One example of a CFW HMP was recovered from Neolithic Phase 1, which contrast significantly with the sites in Azerbaijan where they are more common (see Lyonnet 2017; D'Anna 2012, 2017). The second most common type is a cylindrical pot with straight or slightly in-turned walls (Fig. 32: 7-8). Beyond these two forms, only one example of a flat chaff-tempered plate (Fig. 32: 9) and one example of a necked flaring rim jar (Fig. 32: 10) were recovered.

In terms of the identified base sherds, they are generally thick and with a slight foot and made from a single slab of clay (Fig. 32: 11-12). In some of the examples, the traditional basket impressed base was observed (Fig. 32: 13).

Basalt tempered HMPs with knob decoration (Fig. 33: 1-3) continue into the LN/EC (Fig. 27). Moreover, they remain the most common type, albeit at a significantly lower frequency than in the Neolithic levels. Cylindrical pots are found in the LN/EC levels (n: 2) (Fig. 33: 3-4). Chaff tempered HMPs are rare in the Neolithic levels, but occur more frequently in the Chalcolithic (Fig. 33: 5-8). Additionally, two new vessel types appear during this occupation phase: necked Jars with incisions along the lip, and band or thick-rimmed jars (Fig. 33: 9-12). Necked jars with incised rims are a common type associated with “Sioni” Chalcolithic assemblages (Fig. 33: 9-10). The three examples recovered from Gadachrili are each made from different fabric groups; F1, F2, F4. LN/EC bases tend to be finer and less pronounced (Fig. 33: 14-15) although some examples are quite similar to Neolithic bases (Fig. 33: 16).



### *Forming techniques and surface treatment*

Coil-building was the most commonly used technique throughout the Neolithic levels and continued to dominate during the ephemeral LN/EC occupation. Traces of coil-building were observed on the majority of sherds with a few examples from the Neolithic levels that seemed to have been made through pinching a lump of clay or slab construction. Bases on the other hand were produced through shaping a slab of clay on a flat surface or possibly on a flat reed basket with the remainder of the upper body fashioned through coiling.

Surface finishing in the Neolithic, when undertaken, primarily consisted of wet smoothing. This practice continued into the LN/EC period but is supplemented by other practices such as the application of slips (brown and red), and various degrees of burnishing.

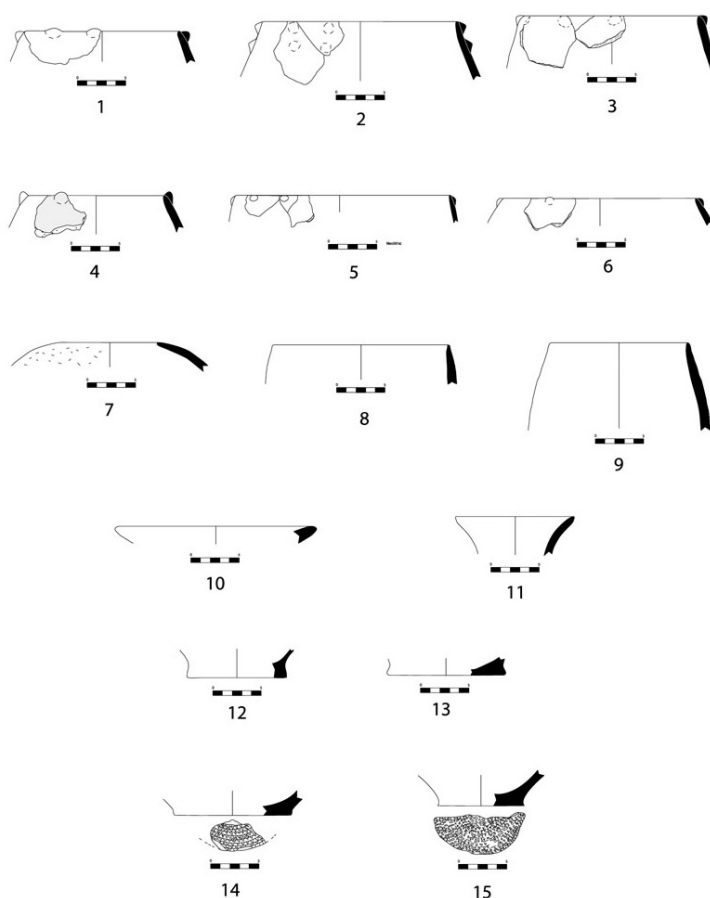


Fig. 32. Neolithic pottery from Gadachrili Gora.

### *Decoration*

The two main forms of ‘decoration’ observed during the Neolithic are the application of knobs to the bodies and rims of vessels (Fig. 32: 1-6), and the basket impressions left on the bottoms of bases (Fig. 32: 13). Despite referring to these practices as “decoration” they may have been either functional (knobs), or the result of certain technical choices (basket impressions). Nevertheless, these practices were common; out of the collection of diagnostic Neolithic sherds, 66% have appliqué knobs (Fig. 30), primarily restricted to HMP and cylindrical pots. Moreover, “decoration” during the Neolithic occurs exclusively on basalt-tempered wares and is absent from the limited number of CFWs observed. The limited repertoire of decoration attested in the Neolithic gives way to more diversified practices during LN/EC (Fig. 29). In addition to the persistence of appliqué knobs, vertical almond-shaped (Fig. 33: 16) and crescent

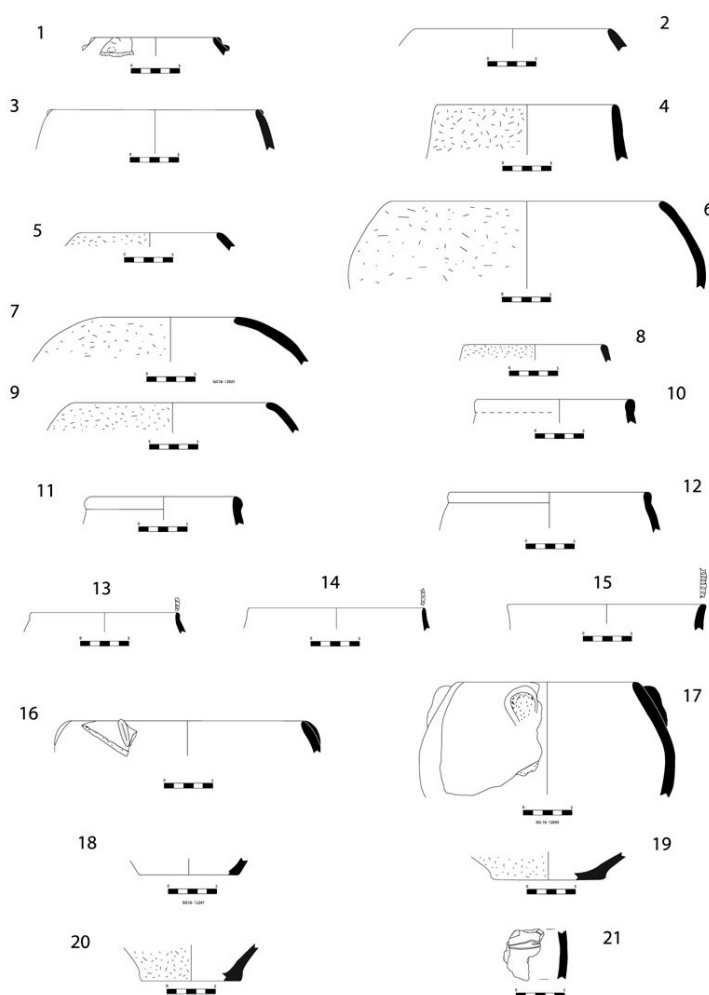


Fig. 33. Chalcolithic pottery from Gadachrili Gora.

shaped lugs (Fig. 33: 17) are also applied to HMPs and cylindrical pots. The LN/EC also marks the appearance of incised 'Sioni' wares as well as scraping and incision on vessel walls (Fig. 33: 21). Knob decoration still occurs exclusively on basalt-tempered vessels. This shows a degree of continuity between Neolithic traditions and those of the early Chalcolithic. Three vessels decorated with lugs cover the three main ware groups: basalt, mica, and CFW (Crescent Lug). The three observed examples of incised jars are also made from the three distinct fabric groups: F1, F2, and F4. This phenomenon points perhaps to a degree of hybridity within potting traditions seen later in the Chalcolithic period (Sagona 2014: 30) which is unattested in the Neolithic.

#### *Regional comparisons*

The LN/EC assemblage at Gadachrili Gora resembles in some regards the assemblage reported from the site of Sioni. This is not surprising considering the close proximity between the two (Sioni is roughly 14 km up the Shulaveri River from Gadachrili). The main parallels that can be drawn are from the presence of necked jars with incisions along their rim, the use of mica tempered wares, the use of slipping and burnishing, and the persistence of HMPs with knobs and lugs and basket impressed bases, all elements documented at Sioni (Nebieridze 2010: 156; Kiguradze 2000: 322-324; Kiguradze and Sagona 2003: 48-49; Sagona 2014: 30). However, many of the elements found there, such as wavy rims, serrated rims, the use of obsidian as temper, and body scraping are completely absent, so far, at Gadachrili.

In addition to the strong relations Gadachrili has with the Kvemo Kartli Chalcolithic, the potting traditions there seems to have been influenced by practices attested in Azerbai-

jan, namely at Mentesh tepe (Lyonnet and Guliyev 2012; Lyonnet *et al.* 2015; Lyonnet *et al.* 2017). Despite the differences observable in potting traditions between the two sites during the Neolithic (Batiuk *et al.* 2017: 198; Lyonnet 2017: 144), there tends to be closer relations between them during the LN/EC. Mentesh tepe shares some of the “Sioni” traditions attested at Gadachrili, while Gadachrili seems to have adopted the application of vegetal temper and CFWs from sites further east in Azerbaijan (e.g. Mentesh). Vegetal and chaff tempered wares were quite common during the Neolithic and Chalcolithic levels (Period II) at Mentesh (Lyonnet 2017: 144), while they were very rare at Gadachrili, and, so far, only appear in the later sub-phases of the Upper Phase of Neolithic occupation. However, they distinctively become a more important element during the LN/EC occupation.

The sharing of potting traditions and emerging hybridization between sites across the region during the Chalcolithic has been well documented (Lyonnet 2017: 147; Sagona 2014: 30). This could be a direct result of mobility among different groups at the time for the dates from period II at Mentesh are not concentrated at one point but scattered within the first half of the 5<sup>th</sup> millennium. This may suggest periodic abandonment and re-occupation by the same population (e.g., Lyonnet *et al.* 2017: 133), a pattern that may have began in the Neolithic and continued into the Chalcolithic, and which could explain the ephemeral nature of the later part of the Neolithic and Early Chalcolithic at Gadachrili Gora.

In a cultural historic theoretical framework, the variations that emerged from the chance adoption of certain elements of manufacture and the resultant hybridization of the end-product may have been grounds for the designation of a new “cultural” entity (e.g. Sioni and Tsopi). An alternative would be to view potting traditions in a framework of communities of practice. The skills required in craft production in general and pottery production in particular are learnt behaviours, transmitted from master to apprentice. These networks of transmission could be described as taking place within a community of practice. In essence a community of practice is an information-sharing group that creates common experiences between its members independent in some cases of other communities of practice (Lave and Wenger 1991). This concept has its roots in learning and apprenticeship and assesses the social dimensions of learning and resultant group behaviour.

What communities of practice mean for craft production is fairly straight forward. When working under a master, a person accumulates a repertoire of skillsets that contribute to the perpetuation of the community of practice. Certain behaviours and technical gestures learnt during the apprenticeship stage become deeply embedded in the craftsman’s way of doing, and do not change easily (see Gosselain 2000, 2015). According to Gosselain (1998: 94-95) some acts become integrated as motor habits, especially when the teacher takes the apprentice by the hand in order to correct their gestures. At a group level the perpetuation of ways of doing creates a “genealogy” of practices that become an expression of group identity (Roux 2016: 3), and an indication of socially acquired dispositions such as common tastes.

Due to marriage, migration, or other forms of movement, multiple communities of practice can exist within a given village, while a single community of practice can crosscut multiple villages. One thing to keep in mind is that assemblage formation at a site may result from the actions of multiple groups of producers. These traditions can merge over time and form new potting traditions that may go through the same process.

What we see taking place at Gadachrili could be a window into this process. Rather than attributing the traditions seen at the site to a specific fixed “culture” it would be more useful to see it in terms of the combination of different sub-assemblages belonging to distinct communities of practice that emerged within overlapping networks of face-to-face interaction between groups in a mobile landscape.

In the absence of  $^{14}\text{C}$  readings, it is difficult to assign a date or duration to the LN/EC occupation. However, the partial continuity manifest in the persistence of Neolithic wares and types, the presence of CFWs common during the late Neolithic and earlier phase of the Chalcolithic at Mentesh, may suggest an earlier date for this occupation at Gadachrili. This observation however, is tentative at best at the moment.

## CONCLUSIONS

The 2017 and 2018 seasons at Gadachrili and Shulaveris Gora has begun to change our understanding of the “Shulaveri-Shomu Tepe Culture” or SSC. Gadachrili Gora has now demonstrated evidence of the changes in the use of space through the Neolithic and into the Early Chalcolithic periods. Given the presence of a possible hide processing area, the presence of some of the largest structures uncovered in the SSC, and a possible open-air food processing area in the ephemeral occupation levels in the LN/EC, it is becoming clearer that this settlement evolved into a more complex entity than previously known. Excavations and the resulting radiocarbon dates from Shulaveris have shown that the SSC cultural sequence, as proposed by Kiguradze is for the most part correct, with the exception of perhaps an earlier sixth phase that pushes the SSC back into the late 7<sup>th</sup> Millennium.

As reported elsewhere, evidence for the earliest storage and consumption of wine has been discovered at both sites (McGovern *et al.* 2017), although its production areas remain elusive, and remains a target of the newly initiated survey. Furthermore, the discovery of evidence for the earliest use of honey (Kvavadze *et al.* in prep) and the diversity of animal exploitation reveals a pattern of a remarkably complex early farming culture that is expanding its manipulation of species, and finding new and inventive secondary products. However, it is still a period of experimentation. The identification of wine at Shulaveris Gora and Gadachrili Gora contains one particularly important difference when compared to the early wine first identified by McGovern at Hajji Firuz Tepe – the use of terebinth resin as a stabilizing agent (McGovern 2003, 2007). This important difference might suggest that the discoveries at Gadachrili Gora and Shulaveris Gora represent a period of the first experimentations with viniculture before the technological innovation of a stabilizing agent was discovered.

The spatial shifting of settlement throughout the 6<sup>th</sup> millennium within the clusters of Neolithic sites might also represent the experimental learning process of early agriculture. Eazon Kikvidze noted that the short spatial shifts throughout the period of SSC occupation in the Shulaveris Cluster might suggest that this was the result of early farmers exhausting the soils in the fields surrounding their settlement. As a result, they then moved a short distance to a new settlement with fresh soils until they are in turn exhausted, moving again until returning to a previously occupied settlement (such as Gadachrili) when the soils have been replenished

(Kikvidze 1963: 17-26). This pattern would suggest that agriculture was still at an experimental stage and that concepts of crop rotation and/or fertilization had not been developed by the SSC. This thesis was recently and independently re-proposed by Palumbi in regards to the Shomutepe Cluster in Azerbaijan (2018). This model might explain what we see at Gadachrili and the emerging pattern of clustering Neolithic occupations in the overall settlement, but tighter chronological control is needed to more accurately verify this suggestion. The exception to such a settlement pattern is Shulaveris Gora, where occupation appears to remain stable throughout the millennia of SSC occupation. The presence of fish bones at Shulaveris, which so far have not been observed in the faunal record of Gadachrili perhaps may imply a wider subsistence strategy practiced at the first site, perhaps the result of a slightly different environmental context. Geomorphological prospections around the different sites are required to investigate these questions.

The growing number of Chalcolithic settlements found in the GGRAS survey region may alter our comprehension of this period, potentially showing continuity with the Neolithic. The ceramic data suggests that in the Chalcolithic period, in contrast to the Neolithic, there is greater mobility, or at least greater communication and technological exchange networks between Kvemo Kartli, and western Azerbaijan, and perhaps even regions further afield. These overlapping networks manifest themselves in the hybridization of forms and technologies of ceramics. Whether the resulting Chalcolithic assemblages should be seen as a new 'culture' (e.g. Sioni), or as a continuation and adaptation of Neolithic culture due to these developing networks is yet to be determined. Further survey and eventually excavation of a chalcolithic site in the region may alter many of our understandings, and potentially shed light on the nature and degree of inter-regional contacts during this pivotal period.

#### ACKNOWLEDGEMENTS

This work would not have been possible without the contributions of a number of people and organizations. We would first like to thank Woodsworth College of the University of Toronto, The Georgian National Museum, The Ministry of Agriculture of the Republic of Georgia and the Georgian National Wine Agency and Wine Association, and The Ministry of Cultural and Monument Protection for providing us with permission to conduct our research. The 2017-8 GRAPE teams were internationally collaborative efforts. We would like to thank our Georgian team members; David Lordkipanidze, Irakli Koridze, Eliso Kvavadze, Nana Rusishvili, Tata Agapishvili, Dimitri Jachviani, Giorgi Turashvili, Inga Esvanjia, Mariam Eloshvili, Tinatin Bulashvili. Our Canadian team members; Elizabeth Gibbon, Emily Hammer, Natalia Handziuk, and Judyta Olszewski. Our Canadian students included: Erika Armstrong, Regina Bendig, Ada Chen, Caitriona Dickie, Catie Collins, Tong Heng, Patrick Keenan, Ariella Kohn-Adams, Jiaki Lu, Susana MacEachen, Vlad Malinov, Walter Mancini, Sophia Menyhert, Emily Montgomery, Catherine Solomon, Summer Sun, Shane Teasedale, Yilin Wang, Aubrey Whittaker, Iris Wu, Jizu Yoo, Xu Yongjing, and David Zhang. We would like to especially thank the University of Toronto Mississauga's Institute for Communication, Culture, Information and Technology's Drs. Anthony Wensley and Tracey Bowen, Sarah Whitol and Joe Desloges of Woodsworth College, the Department of Near & Middle Eastern Civilizations Dr. Tim Harrison and Maria Vivona, as well as Dr. Michael Chazan and the Archaeology Centre of the University of Toronto.



## APPENDIX: SITE CATALOGUE

All four categories of site as defined above were labelled using the acronym GGRAS (Gadachrili Gora Regional Archaeological Survey), and a sequentially running three-digit number (001, 002, etc.). To distinguish between the four, categories were added by means of a capitalized letter at the end of the number (A, C, K) with the exception of habitation sites (e.g. GGRAS0019K = Kurgan). Elevation above mean average sea level is abbreviated to "E." .

**GGRAS001**

E 483210 – N 4583647, E. 373

Size: 0.6 ha

A mound on the old bed of the Khrami River, located on a natural promontory overlooking the modern flood plain. Just to the southwest of the town of Imiri.

Artefacts concentrated on the southeast slope.

Number of sherds: 18

Number of lithics: 1

Periodization: 2 Kura-Araxes, 8 Late Bronze, 8 Early Medieval (5<sup>th</sup>-8<sup>th</sup> centuries).

**GGRAS002C**

E 483106 – N 4583693, E. 362  
Armenian Cemetery from the 19<sup>th</sup> century. No artefacts associated with it.

**GGRAS003 (Kaitmazi)**

E 482842 – N 4583423, E. 377

Size: 10 ha

Large mound on the bluffs of the modern riverbed of the Khrami.

Number of sherds and periodization: 56 Kura-Araxes, 4 LB sherds, 10 Late Roman (3<sup>rd</sup>-4<sup>th</sup> centuries AD), 6 Early Medieval (without sand inclusions), 4 11<sup>th</sup>-13<sup>th</sup> century, some Late Medieval.

**GGRAS004**

E 480563 – N 4584684, E. 389  
Site on the bluffs of the modern riverbed of the Khrami. De-

stroyed by the presence of a modern building.

Number of sherds and periodization: 17 Roman.

**GGRAS005**

E 479092 – N 4585539, E. 397

Kvemo Akhevani (Fig. 25): Large settlement along the bluffs of the modern river bed of the Khrami composed on an upper and lower mound with a medieval church still present. The occupation of the site seems to date primarily to the Late Medieval period, but evidence of earlier occupation also found, mainly concentrated on the eastern high mound.

Number of sherds and periodization: 2 Neolithic, 1 Kura Araxes, 2 early Medieval, 1 11<sup>th</sup>-13<sup>th</sup> centuries, rest (majority) Late Medieval.

**GGRAS006**

E 479979 – N 4585174, E. 393

Mounded settlement along the bluffs of the modern riverbed of the Khrami river.

Number of sherds and periodization: 24 Iron Age, 11 Late Medieval.

**GGRAS007**

E 479919 – N 4585155, E. 387

Mounded settlement along the bluffs of the modern riverbed of the Khrami river. Across a gully (transformed into a road) to the west of GGRAS006. The two settlements could have been

one site. The site's northern part seems to be eroding away quickly as stratigraphy has been clearly exposed along it.

Number of sherds and periodization: 14, all Early Iron Age.

**GGRAS008**

E 477528 – N 4583414, E. 455

Small hillock in a field along the Saghzaghani Valley, very low visibility at the site; only one sherd and two fragments of obsidian were recovered.

Number of sherds and periodization: 1 Late Medieval.

**GGRAS009**

E 476528 – N 4583414, E. 529

Could be Palaeolithic/Mesolithic rock shelter in the located on the high hilltop in the town of Mamkhuti.

No pottery.

**GGRAS010**

E 478366 – N 4582719, E. 463

Natural hill with fragment of an obsidian scraper.

No pottery.

**GGRAS011**

E 480309 – N 4580384, E. ?

Natural hill with a few pieces of obsidian.

No pottery.

**GGRAS012**

E 480489 – N 4579906, E. ?

Open field between two natural hills.

Number of sherds and periodization: 13 Late Bronze Age, 1 Early Medieval, 1 Late Medieval.

#### **GGRAS013A**

E 481129 – N 4581226, E. ?

Number of sherds and periodization: all Late Medieval.

#### **GGRAS014A**

E 484069 – N 4583260, E. 372

Number of sherds and periodization: total only 3 pieces of Kura Araxes.

#### **GGRAS015A**

E 483922 – N 4583311, E. 376

Number of sherds and periodization: 1 Kura-Araxes, 10 Late Medieval.

#### **GGRAS016**

E 483984 – N 4583134, E. 374

Ploughed site with road passing through it. The site is located on the bluffs of the Khrami River.

Number of sherds and periodization: all Kura Araxes.

#### **GGRAS017A**

E 483886 – N 4583060, E. 376

Ploughed field just to the south of GGRAS016 only produced a number of obsidian implements. Only lithics.

#### **GGRAS018K**

E 485514 – N 4581242, E. 380

Kurgan perhaps equal to 5 (Bedeni) in Georgian report.

#### **GGRAS019K**

E 485724 – N 4581379, E. 373

Burial Kurgan perhaps equal to 8 in Javakhishvili and Japaridze (1975) report. The Kurgan is excavated and dates perhaps to the second half of the 3<sup>rd</sup> millennium Bedeni culture.

#### **GGRAS020A**

E 485696 – N 4581159, E. 374

Ploughed field

Number of sherds and periodization: all Late Medieval.

#### **GGRAS021**

E 485566 – N 4581043, E. 389

Medieval settlement located along the northern and western slopes of a natural hill in the town of Shulaveri. Some architectural remains visible on the surface.

Number of sherds and periodization: mainly Medieval (11<sup>th</sup>-12<sup>th</sup> centuries).

#### **GGRAS022K**

E 486235 – N 4581111, E. 382

A burial Kurgan to the north of GGRAS021.

#### **GGRAS023**

E 486272 – N 4581042, E. 365

Mounded site with a dense Armenian cemetery.

Number of sherds and periodization: 22, all Late Medieval.

#### **GGRAS024A**

E 487705 – N 4580652, E. 345

Chakhmakh Tepe (Fig. 25): Site along the southern slope of a natural hill. Artefacts such as pottery, lithics, and traces of stratigraphy found in bulldozer cuts. Number of sherds and periodization: 7 Chalcolithic, 6 Late Medieval.

#### **GGRAS025A**

E 487549 – N 4580797, E. 346

Ploughed field to the north of GGRAS024.

Number of sherds and periodization: 1 Neolithic, 3 Kura-Araxes, 2 Iron Age 7<sup>th</sup> century, 5 Late Medieval.

2 11<sup>th</sup>-13<sup>th</sup> century, 9 Late Medieval.

#### **GGRAS026**

E 487333 – N 4580690, E. 351

Large Neolithic site (2.4 ha) cut by eastern road of Shulaveri and damaged by a large Soviet era structure in its centre (Fig. 23).

Number of sherds and periodization: all Neolithic, 2 possible Kura Araxes. North of the road all Neolithic, 1 Late Bronze.

#### **GGRAS027A**

E 487513 – N 4580275, E. 348

Small ploughed field (Azar Chai) with low density of artefacts.

No pottery.

#### **GGRAS028A**

E 483125 – N 4582872, E. 384

Ploughed field located to the west of Shulaveris Gora.

Number of sherds and periodization: 1 Roman, 8 Late Medieval.

#### **GGRAS029A**

E 482907 – N 4582862, E. 388

Ploughed field

Number of sherds and periodization: 2 Late Medieval.

#### **GGRAS030A**

E 482864 – N 4582440, E. 394

Ploughed field

Number of sherds and periodization: 4 all Late Medieval.

#### **GGRAS031A**

E 482213 – N 4581598, E. 410

Ploughed field.

Number of sherds and periodization: 3 Early Medieval, 7 Late Medieval.

#### **GGRAS032**

E 482304 – N 4581728, E. 409

Abandoned grape grove.

Number of sherds and periodization: 5 sherds Late Bronze, 4 Early Medieval 6<sup>th</sup> to 8<sup>th</sup> century.

#### **GGRAS033A**

E 482160 – N 4581962, E. 405  
Ploughed field.

Number of sherds and periodization: 10 sherds 11<sup>th</sup> -13<sup>th</sup> century, 54 sherds Late Medieval.

#### **GGRAS034**

E 487868 – N 4578661, E. 364  
Small Gora (Aloğ Tepe).

Number of sherds and periodization: 2 is Kura-Araxes, also one body sherd could be Kura-Araxes. 15 Most of the assemblage Late Medieval.

#### **GGRAS035A**

E 488494 – N 4579559, E. 345  
Ploughed field.

Number of sherds and periodization: 1 11<sup>th</sup>-13<sup>th</sup> century, 13 Late Medieval.

#### **GGRAS036**

Gora with dense Neolithic occupation.

E 488360 – N 4579992, E. 343  
Number of sherds and periodization: 60 Neolithic, 2 Kura-Araxes, 11 Medieval.

#### **GGRAS037A**

Ploughed field.

E 488547 – N 4579790, E. 337  
Number of sherds and periodization: 20 all Late Medieval (no good diagnostics, none drawn).

#### **GGRAS038A**

E 488796 – N 4580229, E. 337  
Small damaged Gora.

Number of sherds and periodization: 1 Late Bronze, rest unknown (5)?

#### **GGRAS039**

E 488742 – N 4580332, E. 337  
Small Gora.

Number of sherds and periodization: 4 Kura-Araxes, 4 Late Medieval.

#### **GGRAS040**

E 488286 – N 4578803, E. 338  
Ploughed field.

Number of sherds and periodization: 2 Chalcolithic?, 5 Kura-Araxes, 19 Late Bronze, 15 Iron Age, 55 Late Medieval.

Homogenous assemblage mainly Late Medieval (16<sup>th</sup> to 18<sup>th</sup> centuries). All medieval but has another Bag (southeast)?

#### **GGRAS041A**

E 488135 – N 4578903, E. 345  
Number of sherds and periodization: 3 Kura Araxes, 2 Late Bronze, 6 Late Medieval.

#### **GGRAS042A**

E 488153 – N 4579264, E. 344  
Ploughed field.

Number of sherds and periodization: 1 Kura Araxes, 11 Late Medieval.

#### **GGRAS043A**

E 488142 – N 4579320, E. 345  
Ploughed field.

Number of sherds and periodization: 3 Neolithic, 34 rest is a mix of early to Late Medieval.

#### **GGRAS044A**

E 488052 – N 4579368, E. 346  
Ploughed field.

Number of sherds and periodization: Late Bronze Age (23 pieces), Iron Age (1 piece), Late Medieval (30 pieces).

#### **GGRAS045**

E 487928 – N 4579304, E. 345  
Ploughed field.

Number of sherds and periodization: 1 Chalcolithic, 43 Late Medieval, 1 modern, 13 Late Bronze.

#### **GGRAS046A**

E 487849 – N 4579608, E. 344  
Ploughed field.

Number of sherds and periodization: 36 Chalcolithic, 13 Late Bronze Age, 5 Iron Age, 100 Late Medieval.

Only pottery.

#### **GGRAS047A**

E 487998 – N 4579573, E. 341  
Ploughed field.

Number of sherds and periodization: 71 Neolithic, 1 Late Bronze, 5 Kura-Araxes, 12 Late Medieval, 4 Early Medieval

12 Neolithic/Chalcolithic, 6 Late Bronze, 2 Kura-Araxes, 9 Early Iron Age, 1 13-12<sup>th</sup> century, 60 Late Medieval.

#### **GGRAS048A\***

E 487953 – N 4579638, E. 345  
Ploughed field.

Number of sherds and periodization: 7 Neolithic, 18 Chalcolithic, 19 Early Kura-Araxes, 13 Late Roman/Early Medieval, Late Medieval.

#### **GGRAS049**

E 488016 – N 4579721, E. 357?

\* GGRAS 044-048 seem to represent remnants of a fairly large multi-period Gora that has been leveled for agricultural purposes. This could be discerned by the higher than usual amount of obsidian and pottery recovered from those fields.

Small Gora with modern Azerbaijani cemetery.

Number of sherds and periodization: 15 Chalcolithic, 11 Early Kura-Araxes, 4 Late Medieval.

#### **GGRAS050**

E 481977 – N 4579762, E. 478

The large mound of Shaumian is Gora located along the Shulaveri River north of the town of Shaumiani.

Number of sherds and periodization: 1 Neolithic, 5 Iron Age, 3 Early Medieval, 12 Late Medieval.

#### **GGRAS051**

E 487973 – N 4580226, E.?

Gora with heavy vegetation cover. Despite the presence of only a few Kura-Araxes sherds the amount of fine blades and the overall lithic industry suggests the presence of earlier occupation.

Number of sherds and periodization: 3 Kura-Araxes.

#### **GGRAS052A**

E 487863 – N 4580225, E. 340

Ploughed field to the west of GGRAS051.

Number of sherds and periodization: 3 Kura-Araxes, 9 Late Bronze, 2 Early Medieval, 36 Late Medieval.

#### **GGRAS053**

E 487975 – N 4580299, E. 339

Ploughed field to the north of GGRAS051.

Number of sherds and periodization: 3 Late Medieval.

#### **GGRAS054**

E 489210 – N 4579104, E. 360

Gora.

Number of sherds and periodization: 5 Chalcolithic (1 fine fragment of a micro blade made on red flint from west Georgia), 18 Late Bronze Age, 6 Iron Age, 22 Early Medieval.

#### **GGRAS055A**

E 489224 – N 4579146, E. ?

Gora North of Araplo.

Number of sherds and periodization: 1 Neolithic, 1 Kura-Araxes, 2 Iron Age, 19 Late Medieval.

#### **GGRAS056A**

E 489348 – N 4579157, E. ?

Number of sherds and periodization: 3 Early Iron Age, 1 Hellenistic, 19 Late Medieval.

#### **GGRAS057A**

E 489245 – N 4579134, E. 338

Number of sherds and periodization: 5 Iron Age, 2 Early Medieval, 13 Late Medieval.

#### **GGRAS058K**

E 484609 – N 4580658, E. 412

Excavated Kurgan.

#### **GGRAS059K**

E 484521 – N 4580835, E. 410

Excavated Kurgan.

#### **GGRAS060K**

E 482146 – N 4878921, E. 497

Kurgan.

#### **GGRAS061K**

E 482195 – N 4578887, E. 482

Kurgan.

#### **GGRAS062K**

E 482227 – N 4578756, E. 494

Kurgan.

## BIBLIOGRAPHY

- Abibullayev, A.O., 1959 — Археологические Раскопки в Кюльтепе [Archaeological Excavations at Kültepe] (*in Russian*). Baku: Elm.
- Akkermans, P.M.M.G., and G. Schwartz, 2001 — The Archaeology of Syria: From Complex Hunter-Gatherers to Early Urban Societies (c. 16,000-300 BC). Cambridge University Press, Cambridge.
- Arazova, R.B., 1986 — Kamennye Orudija Truda Rannikh Zemledel'chesko-skotovodcheskikh Plemen Zapadnogo Azerbajdzhana (Po Dannym Eksperimental'notrasologicheskikh Issledovanij) [Stone tools of the early farming tribes from western Azerbaijan] (*in Russian*). Baku: Elm.
- Badalyan, S., A. Harutyunyan, C. Chataigner, F. Le Mort, J. Chabot, J.E. Brochier, A. Balasescu, V. Radu, and R. Hovsepyan, 2010 — The Settlement of Aknashen-Khatunarkh, A Neolithic Site in the Ararat Plain (Armenia): Excavation Results 2004-2009. *Tüba-AR* 13: 185-218.
- Batiuk, S., A. Graham, M. Jalabadze, and K. Abu Jayyab, 2017 — The Gadachrili Gora Regional Archaeological Project Expedition: Preliminary report of the 2016 Season. *Anatolica* 43: 173-202.
- Bronk Ramsey, C. 2013 — OxCal Online Radiocarbon Calibration. Version 4.2. Oxford: Radiocarbon Accelerator Unit, University of Oxford. <http://c14.arch.ox.ac.uk/embed.php?File=oxcal.html>.
- Burchuladze, A.A., 1968 — Tbilissi Radiocarbon Dates I. *Radiocarbon* 10: 466-467.
- Burchuladze, A.A., I.D. Gedevisaishvili, and G.I. Togonidze, 1975 — Tbilissi Radiocarbon Dates III. *Radiocarbon* 18/3: 355-361.
- Chataigner, C., 1995 — La Transcaucasie au Néolithique et au Chalcolithique. BAR-IS 624. Oxford: Tempus Reparatum.
- Chilashvili, L., 2004 — The vine, wine and the Georgians. Tbilisi: Petite Publisher.
- Chubinishvili, T.N., and L.M. Chelidze, 1978 — K voprosu o nekotorykh opredeljajushchikh priznakakh rannezemledel'cheskoj kul'tury VI-IV tys. do n.e. [Some determining signs of early farming culture from the 6<sup>th</sup> to the 4<sup>th</sup> millennium] (*in Russian*). *Izvestija Akademii Nauk Gruzinskoi SSR* 1: 1-66.
- Decaix, A., E. Messager, M. Tengberg, R. Neef, B. Lyonnet, and F. Guliyev, 2016 — Vegetation and plant exploitation at Mentesh Tepe (Azerbaijan), 6<sup>th</sup> to 3<sup>rd</sup> Millennium BC, Initial results of the archaeobotanical study. *Quaternary International* 395: 19-30.
- Hamon, C., M. Jalabadze, T. Agapishvili, E. Baudouin, I. Koridze, and E. Massager, 2015 — Gadachrili Gora: Architecture and Organization of a Neolithic Settlement in the Middle Kura Valley (6<sup>th</sup> Millennium BC, Georgia). *Quaternary International* 395: 154-169.
- Hansen, S., G. Mirtskhulava, and K. Bastert-Lamprichs, 2007 — Aruchlo: A Neolithic Settlement Mound in the Caucasus. *Neolithics* 1/07: 13-19.
- Hansen, S., and G. Mirtskhulava, 2012 — The neolithic settlement of Aruchlo. Report on the excavations in 2009-2011. *Archäologische Mitteilungen aus Iran und Turan* 44: 58-86.
- Hansen, S.G., 2013 — Neolithic Settlements of the 6<sup>th</sup> Millennium Cal. BCE in the Southern Caucasus. In: P. Akkermans, R. Bernbeck, and O. Nieuwenhuys (eds.), *Interpreting the Late Neolithic of Upper Mesopotamia. Papers on Archaeology of the Leiden Museum of Antiquities (PALMA) 9*. Turnhout: Brepols, 387-396.
- Japaridze, O., and A. Javakhishvili, 1971 — [The oldest culture for farming of habitants on the territory of Georgia] (*in Georgian*). Tbilisi.
- Javakhishvili, A., 1973 — Stroitel'noe delo i arkhitektura poselenij juzhnogo Kavkaza V-III tys. do n.e. [Architectural construction of settlements in the southern Caucasus from the 5<sup>th</sup> to the 3<sup>rd</sup> millennium] (*in Russian*). Tbilisi.
- Javakhishvili, A., T.V. Kiguradze, I. Glonti, O. Djaparidze, G. Avalishvili, C. Davlianidze, and R. Otchet, 1975 — Kvemo-Kartlijskoj arkheologicheskoi ekspeditsii (1965-1971 gg) [Report on Kvemo-Kartli Archaeological Expedition (1965-1971)] (*in Georgian*). Tbilisi.
- Kiguradze, T., 1976 — Periodizatsiya Rannezemledel'cheskoj Kul'tury Vostochnogo Zakavkaz'ja. [Periodization of the early farming culture from the eastern Caucasus] (*in Georgian, abstract in Russian*). Tbilisi: Metsniereba.
- Kiguradze, T., 1986 — Neolithische Siedlungen von Kvemo-Kartli, Georgien. Materialien zur



- allgemeinen und vergleichenden Archäologie 29. Munich: C.H. Beck.
- Kiguradze, J., 2000 — Vazi da Ghvino [Georgia, the cradle of viticulture and wine making] (*in Georgian*). Tbilisi, 27-29.
- Kikvidze, E., 1963 — Morts'q'va Dzvel Sakartveloshi [Irrigation in Old Georgia] (*in Georgian*). Tbilisi.
- Korobkova, G.F., 1979 — Drevnejshie zemlekopnye orudija iz Arukhlo I (pervye resul'taty trasologicheskogo issledovanija kostjanykh izdelij epokhi eneolita) [The oldest digging tools from Aruchlo I (first results of trace analysis on bone tools from the Eneolithic)] (*in Russian*). *Materialy po Arkheologii Gruzii I Kavkaza VII*: 97-100.
- Korobkova, G.F., and T.V. Kiguradze, 1972 — K voprosu o funkcional'noj klassifikatsii kamennikh orudij iz Shulaveris-Gora [Functional classification of stone tools from Shulaveris-Gora] (*in Russian*). *Kratkie Soobshchenija* 132: 53-58.
- Kushnareva, K. Kh. (tr. H.N. Michael), 1997 — The Southern Caucasus in prehistory: stages of cultural and socioeconomic development from the eighth to the second Millennium B.C. Philadelphia: The University Museum, University of Pennsylvania.
- Kushnareva, K.Kh., and T.N. Chubinishvili, 1970 — Drevnie Kul'tury Juzhnogo Kavkaza. [Ancient Cultures from the southern Caucasus] (*in Russian*). Leningrad: Nauka.
- Kvavadze E., I. Martkoplshvili, M. Chichinadze, M. Jalabadze, and I. Koridze, 2014 — [Preliminary data of the palynological study of the layers and vessels of the Gadachrili Gora and Shulaveris Gora settlements (based on the material taken in 2007)] (*in Georgian*). *Proceedings of Natural and Prehistoric Section* 6: 42-57.
- Lyonnet, B., F. Guliyev, L. Bouquet *et al.*, 2015 — Mentesh Tepe, An Early Settlement of the Shomu-Shulaveri Culture in Azerbaijan. *Quaternary International* 395: 1-14.
- Maghradze D., G. Samanishvili, L. Mekhuzla, I. Mdinaradze, G. Tevzadze, A. Aslanishvili, P. Cavchanidze, D. Lordkipanidze, M. Jalabadze, E. Kvavadze, N. Rusishvili, E. Nadiradze, G. Archvadze, P. McGovern, P. This, R. Bacilieri, O. Failla, G. Cola, L. Mariani, N. Wales, M.T.P. Gilbert, L. Bouby, T. Kazeli, L. Ujmajuridze, S. Batiuk, L. Megreldze, T. Bagratia, and L. Davitashvili, 2017 — Grape and Wine Culture in Georgia, the South Caucasus. In: *Proceedings of the 39<sup>th</sup> World Congress of Vine and Wine*, Bento Gonçalves, Brazil, Oct. 23-8, 2016.
- McGovern, P.E., M. Jalabadze, S. Batiuk, M. Callahan, K. Smith, G.R. Hall, E. Kvavadze, D. Maghradze, N. Rusishvili, L. Bouby, O. Failla, G. Cola, L. Mariani, E. Boaretto, R. Bacilieri, P. This, N. Wales, M.T.P. Gilbert, D. Lordkipanidze, 2017 — Early Neolithic Wine of Georgia in the South Caucasus. *Proceedings of the National Academy of Sciences* 114/47: E10309-E10318.
- McGovern, P.E., 2007 — *Ancient Wine: The Search for the Origins of Viticulture*. Princeton: Princeton University Press.
- Narimanov, I.N., 1987 — Kul'tura drevnejshego zemledel'chesko-skotovodcheskogo naselenija Azerbaidzhana (epokha Eneolita VI-IV tys. do n. e.) [The culture of the oldest farming sites in Azerbaijan (Eneolithic Period 6<sup>th</sup> to 4<sup>th</sup> millennium)] (*in Russian*). Baku: Elm.
- Nishiaki, Y., F. Guliyev, and S. Kadowaki, 2015 — Chronological Contexts of the Earliest Pottery Neolithic in the South Caucasus: Radiocarbon Dates for Goytepe and Haci Elamxanlı Tepe, Azerbaijan. *American Journal of Archaeology* 119(3): 279-294.
- Palumbi, G., 2018 — The 2017 investigations at Kiçik Tepe (Tovuz, Azerbaidjan), new data on the neolithic and chalcolithic periods in the Kura river valley. Presented at ICAANE 2018, Munich, Germany. April 3-7, 2018.
- Reimer, P.J., E. Bard, A. Bayliss, J.W. Beck, P.G. Blackwell, C. Bronk Ramsey, C.E. Buck, H. Cheng, R.L. Edwards, M. Friedrich, P.M. Grootes, T.P. Guilderson, H. Hafflidason, I. Hajdas, C. Hatté, T.J. Heaton, D.L. Hoffman, A.G. Hogg, K.A. Hughen, K.F. Kaiser, B. Kromer, S.W. Manning, M. Niu, R.W. Reimer, D.A. Richards, E.M. Scott, J.R. Southon, R.A. Staff, C.S.M. Turney, and J. van der Plicht, 2013 — IntCal13 and Marine13 radiocarbon age calibration curves 0e50,000 years cal BP. *Radiocarbon* 55(4): 1869-1887.
- Wilkinson, T.J., and D. Tucker, 1995 — *Settlement development in the North Jazira, Iraq*. Warminster: Aris & Phillips.

## THE 2017-2018 SEASONS AT ÇADIR HÖYÜK ON THE NORTH CENTRAL PLATEAU

Sharon R. Steadman, Gregory McMahon, T. Emre Şerifoğlu, Marica Cassis, Anthony J. Lauricella, Laurel D. Hackley, Stephanie Selover, Burcu Yıldırım, Benjamin S. Arbuckle, Madelynn von Baeyer, Yağmur Heffron, Katie Tardio, Sarah Adcock, Emrah Dinç, Gonca Özger, Bengi Selvi, Stephanie Offutt, Alicia Hartley

### Abstract

*The Çadır Höyük mound is located in Yozgat Province, approximately 16 km from the city of Sorgun. Work commenced at the site in 1993 with an intensive surface survey, followed by excavation beginning in 1994. The deep sounding (excavated from 1994-2001) demonstrated that occupation stretches back to at least 5200 cal. BC; excavations on the mound summit indicate that occupation continued until a final abandonment perhaps in the 13<sup>th</sup> century CE. No gap in occupation of the mound over some six thousand years has been detected. The findings presented here derived from our work in three main periods represented at the site: the Late Chalcolithic exposure (ca. 3800-3500 BCE) located on the lower southern slope, the second and first millennium BCE, excavated in several areas of the site (the western slope work is presented here), and the Byzantine occupation, ca. 6<sup>th</sup>-13<sup>th</sup> centuries BCE on the mound summit, including mention of possible Roman architecture discovered in the 2018 season. The 2017 season provided some major discoveries, including three important child burials in the Late Chalcolithic area, a new gate and entryway into the Byzantine summit area, and a possible chapel. The 2018 season was devoted to further exploring these and other discoveries made in previous seasons in an attempt to solve major questions in preparation for a planned study season in 2019. By the close of the 2018 season we had achieved many of our goals; our work and interpretations are presented herein.*

### INTRODUCTION

The 2017 and 2018 seasons<sup>1</sup> were, in large part, “problem-solving” seasons for the Çadır Höyük team. The 2018 season marked twenty-five years of work at the Çadır site

<sup>1</sup> Sharon Steadman (SUNY Cortland) and Gregory McMahon (University of New Hampshire) serve as co-directors of the project; Emre Şerifoğlu (Bitlis Eren University), Marica Cassis (Memorial University, Newfoundland) and Benjamin Arbuckle (University of North Carolina) serve as Assistant Directors; Anthony Lauricella (University of Chicago), Stephanie Selover (University of Washington), Laurel Hackley (Brown University), Burcu Yıldırım (METU), and Yağmur Heffron (University College, London) are core team members and overall area supervisors; Emrah Dinç (Bilkent University), Stephanie Offutt (SUNY Cortland), Alicia Hartley (Trent University), and Gonca Özger (Middle East Tech. University) serve as trench supervisors; Sarah Adcock (University of Chicago) and Katie Tardio (University of North Carolina) serve as project archaeozoologists; Madelynn von Baeyer (University of Connecticut) serves as the archaeobotanist; Bengi Selvi (University of Melbourne) serves as lithics specialist. We thank the Turkish Kültür Varlıkları ve Müzeler Genel Müdürlüğü, and Mehmet Nezir Arı, Necip Becene, and Ertan Yılmaz, our representatives in the 2017 and 2018 seasons, for their invaluable aid during these seasons of work. In

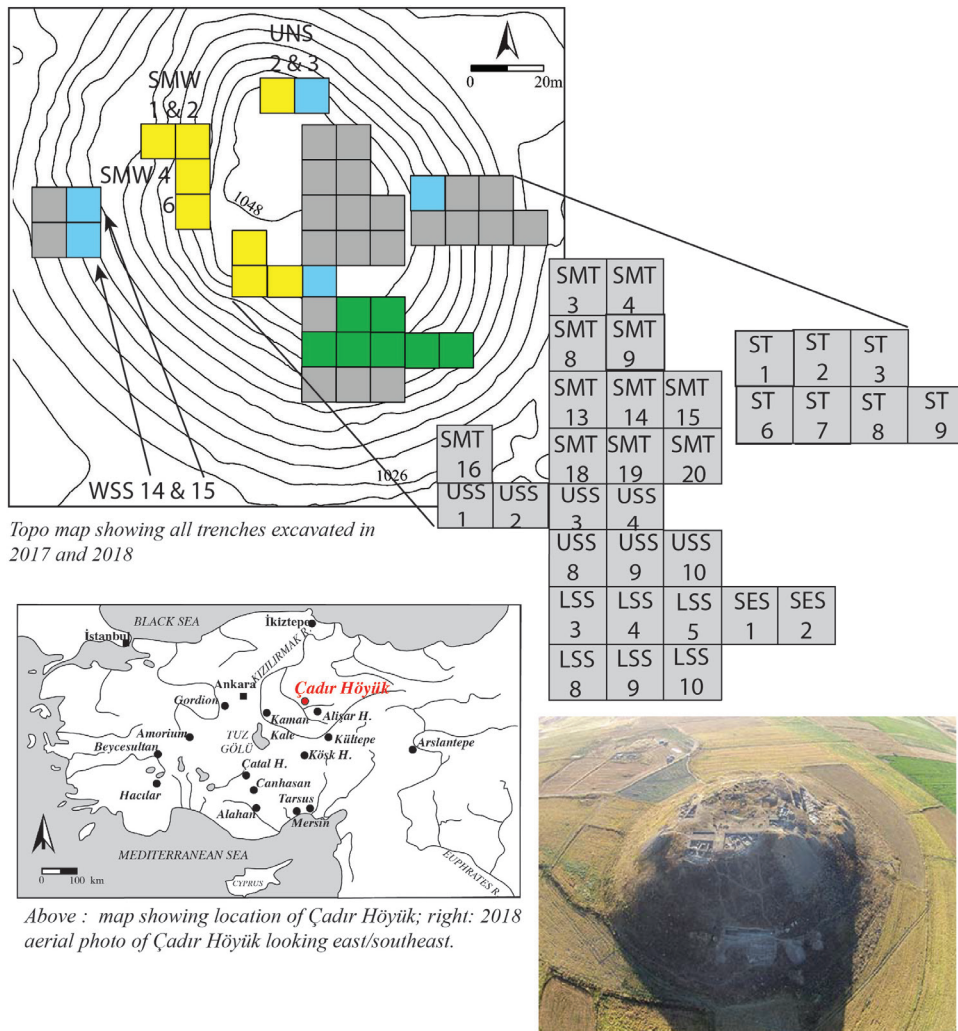


Fig. 1. Top left: topo map showing all trenches excavated in 2017 and 2018. Periods are designated by colors: green indicates Late Chalcolithic, blue indicates second and first millennium BCE, yellow indicates Byzantine period. On the lower left is a map of Anatolia, lower right is an aerial view of Çadır taken in the 2018 season.

In addition to the authors, our excellent core team includes Jennifer Ross (Hood College) Associate Director, Stefano Spagni, metals analysis, and Soran Avci, conservation. Other important team members in 2017-2018 included trench supervisors Scott Coleman (Memorial University), Jordan Dills (Trent University), Kasia Kunciewicz (Bilkent University), Emrullah Kalkan (Hitit University), Christoph Schmidhuber (Cambridge University), and James Blundell (University College, London); lithics specialist Ryan Robinson (University of Washington); photographer Christopher Gallacher (University College, London); registrar, Joshua Britton (University College, London); and artists Umut Kambak (Hacettepe University) and Sercan Celep (Hacettepe University). We also acknowledge the invaluable help from many students, too numerous to list here, who contributed to the success of these two seasons. We would also like to thank the following institutions for financial and administrative support of the Çadır Höyük excavations: the National Science Foundation (BCS #1311511), the Social Sciences and Humanities Research Council of Canada (Insight Grant 435-2014-0944), Hood College, Memorial University of Newfoundland, SUNY Cortland, the University of New Hampshire, and the University of Chicago.

(Fig. 1), including surface survey beginning in 1993 and excavations beginning in 1994. Over the years, and especially since 2012, a wide range of occupational levels and horizontal exposures have been revealed, and with these came new, and often exciting, questions to answer. A much-needed study season, planned for the upcoming 2019 summer, necessitated that we attempt to tie up many loose ends and answer some of the larger questions remaining from the last two decades of excavations.

The 2017-2018 seasons saw our largest teams yet, with 37 researchers in 2017 working in 22 10×10 m trenches, and 47 in 2018 working in 18 10×10 m trenches, with 37 and 20 workers in each respective year. The following sections describe our findings over the last two years, particularly regarding the Late Chalcolithic exposure on the southern slope, the Byzantine exposure on the mound summit, and the Iron Age exposure on the western slope. Detailed summaries of previous and current work at Çadır, and <sup>14</sup>C dates for phases discussed, can be found in earlier issues of this publication and elsewhere (Cassis 2009, 2011; McMahon *et al.* 2018, 2019; Ross *et al.* 2019; Steadman *et al.* 2013, 2015, 2017, 2018, 2019a, b; Steadman and McMahon 2015, 2017; Yıldırım *et al.* 2018) as well as other publications noted in the text below.

#### THE LOWER TOWN LATE CHALCOLITHIC OCCUPATION

Descriptions of the Lower Town layout and phasing can be found in a previous *Anatolica* publication and elsewhere (Steadman *et al.* 2017: 205; Hackley *et al.* 2018). In both 2017 and 2018 we worked in the five Lower Town 10×10 m trenches (LSS 3-5 and SES 1-2) as well as the two “Upper Town” trenches (USS 9-10) described below. Determining the stratigraphic relationship of the “Western” (Trenches LSS 3-4) and “Eastern” (Trenches SES 1-2, and the eastern half of LSS 5) Compounds was one of the major “problems” we hoped to solve by the end of the 2018 season. By the close of that season we established that the earliest extant phase, termed the “Agglutinated,” had been exposed across the entire expanse of the Lower Town (the “Agglutinated” precedes the “Burnt House & Omphalos Building” phase which dates to the second half of the fourth millennium); as the discussion below reveals, documenting the contemporaneity of the entire area was challenging due to stratigraphic complications. At the close of the 2016 season (Steadman *et al.* 2017), the Agglutinated architecture was exposed in the eastern compound, though not all floors had been reached. In the western compound, however, we understood that we had reached a “Pre-Omphalos”<sup>2</sup> phase, the Omphalos Building level dating to ca. 3600-3300 BCE (see Steadman *et al.* 2017: 206, Table 1), but we were uncertain as to whether this was contemporary to the Agglutinated phase (ca. 3800-3600 BCE) in the eastern compound. For the majority of the 2017 and 2018 seasons we referred to the areas exposed in Trenches LSS 3-4 as the “Pre-Omphalos Phase.” The majority of the work in the eastern compound in the two seasons described here was dedicated to defining the Agglutinated architecture and reaching floor levels, contemporary with exposed walls, where possible.

<sup>2</sup> As excavations and stratigraphic analysis proceed, we may determine that this “Pre-Omphalos” phase is in fact the first stage of the “Omphalos Building” phase. At present, however, we retain the “Pre-Omphalos” terminology for the sake of clarity.

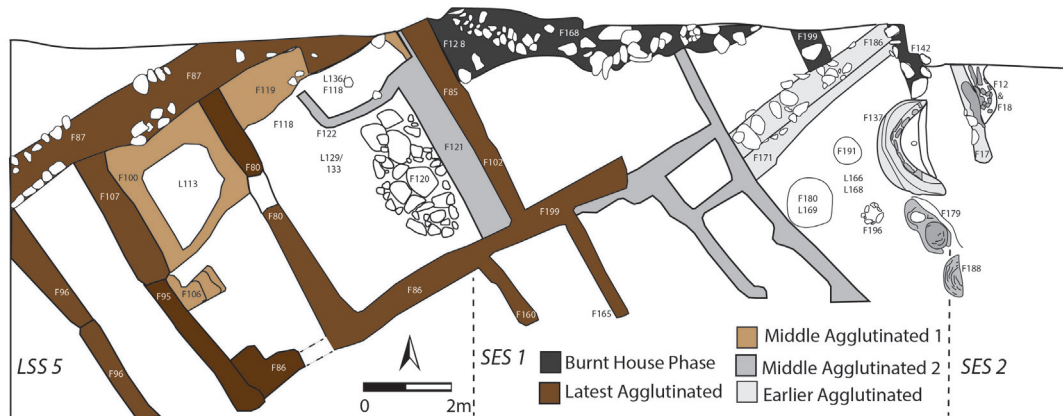


Fig. 2. Plan of the architecture and features in the Late Chalcolithic trenches (SES 1-2 and LSS 5) showing loci and features mentioned in the text. Note that Agglutinated architectural phases (grey and brown colors) are based on our latest assessments and may change with further analysis.

### The Eastern Compound in the Lower Town

As noted above, the earliest architectural phase so far exposed at Çadır is referred to as the “Agglutinated” complex. It is composed of small (ca. 1 to 2 m<sup>2</sup>), attached rooms clustered around larger open courtyards (Fig. 2). This architectural complex rests on the east side of a street that runs largely north/south, bisecting the Lower Town. On the west side of the complex, adjacent to the street, is a large courtyard with a smaller anteroom that opens onto the street; on the east side the Agglutinated complex is abutted by a structure of uncertain purpose, referred to as the “Non-Domestic” building.

The general layout of the Agglutinated complex, street, and Non-Domestic building have been understood for several seasons, but work in 2017 and 2018 successfully removed traces of later buildings and brought these three features into phase across the excavation area. The Agglutinated complex has been divided into two major sub-phases, but excavations have made it clear that the complex was subject to many minor alterations within these phases. These minor architectural changes were probably adaptations to shifting economic and social conditions (Hackley *et al.* 2018; Steadman and Hackley 2017; Steadman *et al.* 2019a), but the major renovations seem to have occurred in response to architectural damage from two destructive fires (Steadman *et al.* 2017).

#### *The Street and Western Courtyards (Trench LSS 5)*

Throughout the Late Chalcolithic, the settlement is divided by the broad street. Immediately east of the street, at the southern extent of the mound, is a large open courtyard (Fig. 2) in Trench LSS 5 that separated the interior space of the Agglutinated complex from the street (this courtyard persisted into the next Burnt House phase). A narrow (2 m wide) anteroom on the west was divided into north and south sections with built-in benches, with



a larger (approximately 3 × 4 m) courtyard on the east. The door in the dividing wall (F80)<sup>3</sup> was staggered from the street entrance (F106, see Fig. 2), obstructing the line of sight from the street into the house.

Substantial burned debris, perhaps from a terminal Burnt House fire, was discovered in this courtyard. Beneath the debris, the eastern part of the courtyard was covered in a thick layer of hardened mudbrick (L129). Late in the 2017 season, this locus was finally identified as the façade wall of the Agglutinated house, which fell or was pushed from its foundation (LSS 5 F85/SES 1 F102) more or less in one piece. L129 extended roughly 3.3 m to the west of wall F85 and terminates on its western edge in a row of stones. Standing on its foundation, this wall would have been almost 3.5 m high, including its stone crown.

The L129 mudbrick was removed late in the 2017 season, revealing a deposit (L133) of finer pottery, the burial of a very young infant in a large black-burnished pot (L130), numerous lithics (see Lithics section below), and a great deal of animal bone, including skull elements of cattle and pigs and at least five cattle horncores. This deposit was concentrated to the south of the axis of entry between the anteroom and the house itself, effectively occupying the southeastern quarter of the large courtyard. To the west of this large locus, and also under L129, was a similar fill (L136) that contained considerably less pottery and bone. Although it appeared to the excavators to be heavily organic, flotation revealed that L136 contained very little grain or other material consistent with a domestic deposit. It did, however, contain a high proportion of red ochre. Taken together, these deposits suggest a ritual event consistent with a “house-killing” (Russell *et al.* 2014). The courtyard was swept clean, accounting for the lack of organic material, and an offering deposit of ochre with pottery and other objects was set up on the courtyard surface. The façade wall of the Agglutinated house was then intentionally toppled over, sealing the entire deposit underneath and ritually “closing” the house. The next phase, the Burnt House and Courtyard (Steadman *et al.* 2007, 2008, 2015, 2018; Steadman and McMahon 2017), was then immediately constructed directly over these remains.

Beneath the L136 fill, we discovered an unusually robust and well-laid plaster surface (F118), which covers the entire western portion of the courtyard and appears to be the Agglutinated phase courtyard surface. An effort to uncover the same surface to the south and east resulted in the biggest surprise of the 2018 season: a pavement of large flat stones (F120) covers the entire



Fig. 3. Photo of the F120 pavement in the Agglutinated courtyard of Trench LSS 5.

3 “F” refers to feature, and “L” refers to locus in our excavation recording system.

southeastern part of the Agglutinated phase courtyard (Fig. 3). It is constructed of non-local white limestone and slopes upward slightly from north to south. This pavement has not yet been fully excavated, but is clearly analogous to a similar feature discovered in LSS 4 in 2017.

#### *The Agglutinated Complex Interior (Trench SES 1)*

The Agglutinated complex architecture was characterized by small rooms that were partly sunk below ground level, perhaps for temperature control and to make construction of and access to a second story easier (Steadman *et al.* 2017). After the Agglutinated complex was destroyed, these original subterranean floor levels were raised, often using mudbrick packing, to the level of the surrounding courtyard surfaces of the Burnt House phase occupation. During the 2017 and 2018 seasons several of these intentional packing/fills were removed in order to expose the original Agglutinated floor levels. It became clear that the packing was placed over deep deposits of rich, dark, ash with a high percentage of mixed grain types (based on flotation, M. von Baeyer, pers. communication). These deposits were probably the swept-up remains of soot and ash from a major and comprehensive burning event that deposited ash in all the rooms of the complex and may have signaled the end of the Agglutinated phase. An attempt to remove this ashy fill from one small Agglutinated room reached more than a meter's depth without locating a floor surface or the bottoms of the Agglutinated walls. This indicates that the depth of the Agglutinated-phase rooms is greater than was previously thought.

#### *The Non-Domestic Building and Area in the Agglutinated Phase (Trenches SES 1-2)*

To the east of the Agglutinated and Burnt House architecture, occupying the eastern half of Trench SES 1, is a relatively large non-domestic space. First identified in 2015, this space has yielded fine ceramics and a figurine, as well as amulets and metal objects, but gives no indication of domestic or production functions. The space is centered on a curious semi-circular mudbrick feature (F137), which is preserved several courses high (Steadman *et al.* 2017; Steadman and McMahon 2017). We have speculated that this space may have served a ritual purpose. It was separated from the later Burnt House architecture by a substantial stone wall (F109) which connected to a perpendicular wall (F123) running east/west along the northern baulk (see Steadman *et al.* 2017: 207, Fig. 2 for these walls). After removing F109 in 2017, architecture consistent with the Agglutinated phase complex to the west was revealed. Therefore, in the earlier Agglutinated phase this non-domestic area was somewhat smaller and may have been open-air. In the Burnt House phase it was enlarged and enclosed by substantial walls. The semi-circular mudbrick feature (F137) persists from the Agglutinated phase through the Burnt House; as of the close of the 2018 season we had not yet reached the foundation of F137, and thus it may *pre-date* even the Agglutinated phase.

A large pit (F180) was excavated in the Agglutinated phase non-domestic area. It was cut from a post-Agglutinated but pre-Burnt House fill level (L166); it contained (L169) a great deal of fine ochre-painted pottery, as well as lithics, a bone bead, lumps of copper and possibly copper ore, and a substantial amount of red and yellow ochre. This assemblage, consistent with Chalcolithic foundation or offering deposits, suggests a special use for this space even prior to the Burnt House phase or perhaps in preparation for the building of the structure in that phase.

Two fire installations (F179 and F188) were excavated in the southeast corner of the space. While these are clearly related to the use of the non-domestic space, neither was used for a great length of time. Both were laid directly on the fill locus L168, and neither had the built sides usual for hearths in this trench. The southern of the two features (F188), however, was underlaid by a layer of broken pottery in the manner of the larger bread ovens and kilns excavated in LSS 4 (Steadman *et al.* 2017). All of these features, with the exception of the semi-circular mudbrick feature F137, were entirely sealed by the subfloor and floor of the Burnt House phase non-domestic space, indicating two discreet phases of activity here.



Fig. 4. Photo of subadult burial in Trench SES 2 (F18) cut into a previously burned mudbrick wall and capped by burned mudbrick (fire installation mentioned in text not visible here).

The easternmost Lower Town Late Chalcolithic Trench is SES 2; it has been consistently difficult to connect it stratigraphically with the rest of the excavation area. In 2018 excavations uncovered a burial (F18 [Fig. 4], ca. 12 years old [Y. Erdal, pers. communication, 2018]) covered by a mudbrick cap (F18) in the northern half of the trench, just to the south of a collapsed fire installation. The burial was of a subadult individual; the body was tightly flexed, probably bound or wrapped, lying on its right side with the head to the southeast. Both arms were folded over the chest, with the hands resting over the left side of the neck. The burial was in an oval, brick-lined pit cut into a badly burned mudbrick wall (F17) that runs north-south

through the center of SES 2. The burial, however, showed no signs of burning, indicating that it was inserted into architecture that had already been compromised. Although it is appropriately oriented to be associated with the Burnt House architecture, stratigraphic connections have been destroyed by ancient trenching along the western boundary of SES 2. This locus of gritty, pebbly fill is especially homogeneous and free of cultural material, interrupting the architecture on both sides of it. Regardless, the presence of the subadult's skeleton is extremely interesting as it is a rare example at Çadır of an older individual buried intramurally in a Chalcolithic context.

### The Western Compound in the Lower Town

The stratigraphy in the Western Compound (Trenches LSS 3-4) was one of the “problems” that needed solving in the 2018 season. Two issues prevent us from linking the Western and Eastern Compounds; the first, as described above, is the street that bisects the settlement. The other is the rather significant slope of the Late Chalcolithic settlement, approximately 80 cm. higher in the west than in the east. Excavations in the Eastern Compound (Trenches LSS 5 and SES 1-2) have been more consistent over the years and are therefore “deeper” and thus seemingly “older.” Excavations were reopened in the Western Compound (Trenches LSS 3 and

LSS 4) in 2012 after an eleven-year hiatus. It soon became apparent that this western side of the settlement was “higher” than the other side and therefore we were likely to reach phases contemporary with the east more quickly. By the 2017/2018 seasons we believed that each compound was within a phase of one another, but confirmation of temporal linkages was lacking.

As noted above, prior to the end of the 2018 season (in the 2017, and most of the 2018 seasons) the excavated areas in the Western Compound, west of the street, were referred to as “Pre-Omphalos”; the architecture appeared devoted to light industry, especially the production of ceramics in an open-air but wall-bounded area. Though the Western Compound architecture offered some parallels to the Agglutinated in the east, its industrial and outdoor nature prevented us from linking the two sides temporally. By the close of the 2018 season, however, primarily due to a discovery in Trench SES 1 in the Eastern Compound (the F120 paving in SES 1, described above), we were confident in temporally linking the two sides of the street. The following describes findings in the Western Compound (Trenches LSS 3-4) over the two seasons of work. The term “Pre-Omphalos” to describe most of the excavations will be employed for consistency’s sake; however, it should be noted that by the end of the 2018 season all of the remains in LSS 4 and many in LSS 3 may be considered as temporally related to the Agglutinated phase in the east (i.e., dating to the first half of the 4<sup>th</sup> millennium BCE).

### *Pre-Omphalos Architecture in Trench LSS 3*

At the end of the 2016 season a number of architectural Pre-Omphalos features (Steadman *et al.* 2017: 212, Fig. 5) remained in Trench LSS 3. Most of the 2017 season’s work in LSS 3 was devoted to removing these features to expose the earlier level. Additionally, the F51 arm of the Enclosure Wall which dates to one of the later phases of the Omphalos Building, was also removed, along with associated Enclosure Wall architecture (F65, 94, 95; not shown on drawing). After the removal of the Enclosure Wall architecture we explored the relationship between the architecture in the Pre-Omphalos and Omphalos Building phases and the enigmatic high pathway to the west, excavated in 2012 and 2013 (Steadman *et al.* 2013: 124, 155, Fig. 13; Steadman and McMahon 2015: 81; see especially walls F32 and F42 on Fig. 5). In a 2×2m sondage located to the west of the F51 Enclosure Wall arm, we discovered a stone and mudbrick feature (F96, 97) leading up to the higher pathway excavated in years past (see F32 in Steadman and McMahon 2015:

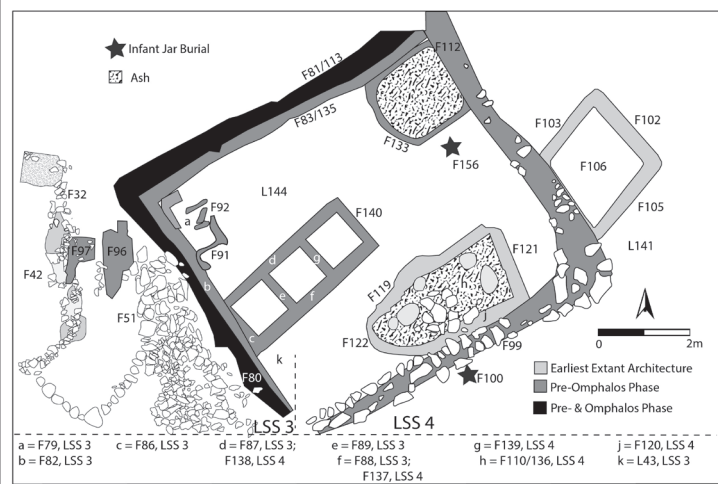


Fig. 5. Plan of Trenches LSS 3 and 4 at beginning of 2017 season showing architecture excavated in 2017 and 2018.



81). We interpret this stone and mudbrick feature as a constructed staircase (heavily burned at some point) that once led from the Pre-Omphalos/Omphalos Building levels to the higher path that rests some 1.5 m above the Lower Town. This higher pathway runs north/south with an entry at the southern end of the settlement that leads, in part, to what may have been a cistern (Steadman and McMahon 2015: 80-81). Since its initial excavation, along with work in Trenches USS 9-10 (see below), we have come to believe that this pathway led from outside the settlement behind (west of) the Lower Town, past the cistern, after which it turned right (east) into the Upper Town. The F96 and F97 staircase allowed those already in the Lower Town to access the pathway behind the Omphalos (and possibly earlier Agglutinated) structures, while the southern end of the pathway allowed those approaching the village to go directly to the Upper Town in Trenches USS 9-10.

The earliest-phase Omphalos Building architecture removed in 2017 (see Fig. 5) includes the storage bin (F79, 91, 92) in the northwest quadrant of LSS 3, and the three-roomed storage building (F86-89 in LSS 3; F137-140 in LSS 4). Removal of the architecture confirmed that the floors of these structures were, like the Agglutinated to the east, “subterranean,” at least by 10-30 cm. The walls rested on a hard-packed mudbrick and clay surface (L143-144 in LSS 3), embedded with small pebbles, that appears to have served as the floor of an open-air courtyard. The mudbrick is similar to that described for Trenches LSS 5 and SES 1 as the type of “packing” laid over some Agglutinated architecture. The builders of the earliest phase Omphalos structures (bin, storage), who may well have also built the “Pre-Omphalos” phase, dug the floors slightly into the underlying architecture. We interpret the mudbrick surface phase extant in Trench LSS 3 at the end of the 2017 season as a type of “divider” between the earliest Omphalos and “Pre-Omphalos” phase. This open courtyard area is bounded by mudbrick walls (see Figs. 5, 7a) that most likely date to the underlying “Agglutinated Phase” architecture and were reused by the Pre-Omphalos industrial phase occupants. Very little work was carried out in LSS 3 in 2018; the surface left in place in 2017 (L143-144) was cleaned and scraped. The tops of architecture were detected during the scraping, which are interpreted as the remains of the earlier Agglutinated phase in this Western Compound, over which the “Pre-Omphalos” inhabitants placed the mudbrick/clay/pebble (L143-144 in LSS 3) packing. At this point in the 2018 season excavations in LSS 3 were closed.

#### *Pre-Omphalos Architecture in Trench LSS 4*

As was the case in Trench LSS 3, the first goal in LSS 4 was to remove the Pre-Omphalos architecture that remained from the 2016 season. In the eastern half of LSS 4 a rectangular structure (F102-106, see Fig. 5), which seems to have been a Pre-Omphalos structure reusing earlier Agglutinated walls, was removed. At the base of the walls was the same type of mudbrick/pebbled surface (L141) found to the west in LSS 3 (L143-144). The surrounding area was covered in mudbrick collapse from this structure’s walls; it is unclear if this wall was intentionally toppled as was the one to the east (see above). The 2017 excavations east of the Western Compound walls continued in 2018, in the area of the street, which is also the intersection between Trenches LSS 4 and LSS 5. The stratigraphy in this small but critical area is exceedingly complicated and is described in detail elsewhere (Steadman *et al.* 2019b). By the close of the 2018 season we were confident that what had been exposed in this area (the north-eastern quadrant of Trench LSS 4) was a series of platforms and steps that served as the access



point to the Upper Town, approximately 1.5 m above the Lower Town (see below, discussion of Trenches USS 9-10). Great care was taken in the construction of this central pathway, leading from the street level up to the Upper Town; both its stratigraphic position and its architectural style suggests it may have been constructed at least in the Agglutinated phase (first half of the fourth millennium BCE).

In the western half of the LSS 4 trench two other Pre-Omphalos phase structures were removed: the apsidal “ash pit” (F119-122; see Fig. 5) in 2017, and the large kiln (F133) in 2018. The ash pit was very carefully deconstructed to understand both its purpose (waste dump/cooling place for products from kiln) and its construction. The walls (F119-122) were built with two courses of molded reddish-grey mud slabs tempered with small pebbles and chaff (i.e., a type of pisé construction); most slabs were roughly 20 × 20 cm in size, and up to 5 cm thick (the slabs in F121 were 25 × 12 × 5 cm). Up to five layers of these mud slabs were preserved in some of the walls. Besides the “fire dogs” in this pit (Steadman *et al.* 2017: 213), the ca. 15 cm of fill (F110) consisted of layers of fine white ash interspersed with plaster, the latter laid to seal easily wind-blown ash and create a new layer for additional ashy deposit. This F110 fill rested on the original surface of this feature (F136) which consisted of a pebbly/mudbrick surface that is connected to the exterior surfaces noted above (L141).

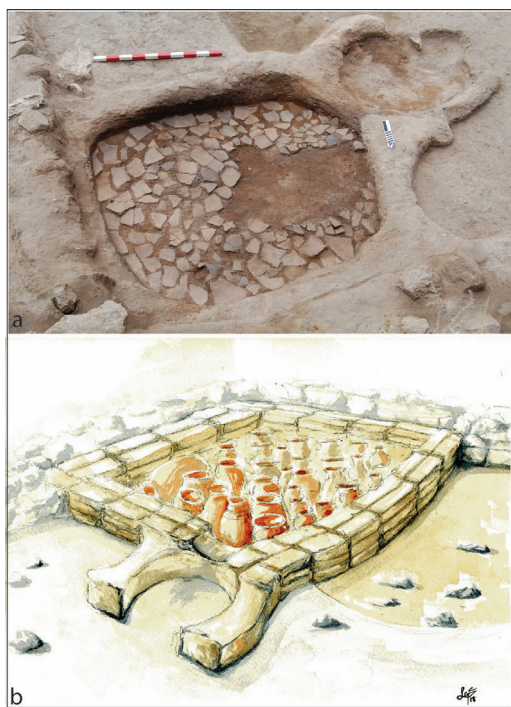


Fig. 6. a: photo of kiln (F133) in LSS 4, excavated in 2018; b: drawing of the kiln as an open-air structure (drawing by Sercan Gökay Celep).

The last of the Pre-Omphalos features, the kiln in the northern half of LSS 4 (F133) was carefully excavated in 2018 (Fig. 6a), revealing the construction method. The stratigraphy of this fire installation, the earlier of two installations spanning the Pre-Omphalos and Omphalos phases, was quite complicated and is offered in detail elsewhere (Steadman *et al.* 2019b). This fire installation was quite large and included a smaller circular access point at its entrance; there was a noticeable lack of the collapsed mudbrick which accompanied the later version in this same spot. Our excavations, therefore, suggest that this may have been a partially or wholly open-air kiln (Fig. 6b). As was the case with the other Pre-Omphalos architecture, the lowest level of this kiln was dug into the previous (Agglutinated) phase. Associated with the kiln was a large storage jar (F117, not shown on drawing). Three infant burials, two in storage jars,<sup>4</sup> were associated with this complex. One was excavated in 2017 (F156 lying on the right side, facing east; see Fig. 5);

<sup>4</sup> An infant jar burial was also discovered next to the stone and mudbrick access to the Upper Town, perhaps also serving as a ritual foundation deposit to this important construction (see Steadman *et al.* 2019b; Yıldırım *et al.* 2018).

the other two were discussed in a previous publication (Steadman *et al.* 2017: 214). The F156 infant burial may have been a type of ritual foundation deposit installed at the time of the kiln construction (see Yıldırım *et al.* 2018).

The kiln removal completed the excavations of Pre-Omphalos structures exposed in previous seasons; currently remaining in the northwestern quadrant of LSS 4 and the eastern half of LSS 3 is the mudbrick sealing/preparation layer put in place by the Pre-Omphalos builders designed to flatten out the pre-existing Agglutinated architecture (the latter visible at the end of the 2018 season as faint wall lines in this mudbrick surface). The discussion turns now to the only Agglutinated architecture currently nearly wholly exposed within the western compound.

### *The Stone Paving and Infant Burials in Trench LSS 4*

Two major discoveries were made in the 2017 season in Trench LSS 4. The first discovery was a beautifully-made stone paving/patio (F159) 3.45 × 1.45 m in size, and the other was the three child burials laid within it. The F159 paving is still not entirely exposed, but our 2018 excavations allow us to better understand its construction; the stone paving is contemporary with the early fourth millennium BCE Agglutinated architecture found in the Eastern Compound. This structure is not flat but rather slopes up from north to south (Fig. 7a), meeting the southern boundary wall (F99) to the compound. Its original purpose is uncertain; it may have simply served as a ramp from outside the compound into the interior of the courtyard. However, the care put into the construction of this paving, and the additional architecture noted below, suggests that it may have been built for other purposes. Further, the stones used are not from the local granite widely available but rather a type of white limestone that must have come from some distance away. Some of the centrally-placed stones have natural channels creating “designs” on the paving surfaces that may have appealed to those building the feature (Yıldırım *et al.* 2018).

At the northern extant boundary of the paving, excavations revealed a hard greenish-grey clay (L172) laid up to and at times partially over the paving stones. This may have served to keep the stones in place, but it also created a surface into which two other stone features (Fig. 7b) could be built (F174, 177). These two stone features appear to be designed

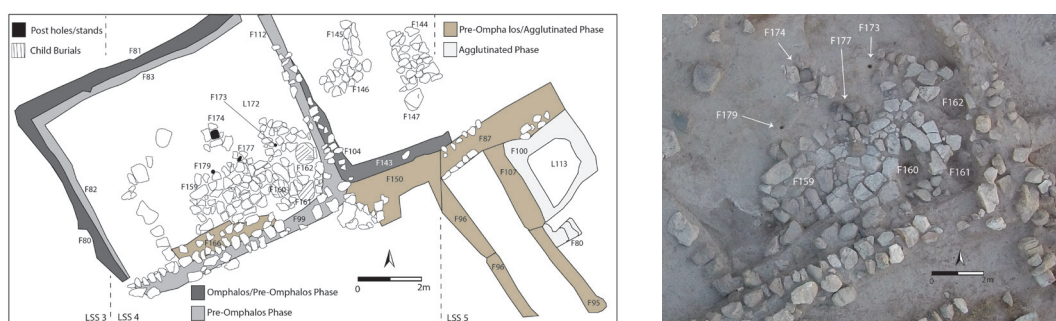


Fig. 7. a: plan of LSS 3-5 trenches showing features and loci excavated/left extant in the 2018 season; b: photo of the F159 platform with associated burials (F160-161) and post holes and post stands (F177, 179; F173-174).

as post-stands. A flat rock in the center is surrounded by head-sized stones. The stones in F174 and F177 are not the special limestone found in the F159 paving feature, but rather the ordinary local granite, or in one case a piece of basalt (one small limestone paving was employed in F174). On either side of these were two postholes (F173, 179). Whether this assemblage of features signals that a doorway once stood here, supported some type of furniture in front of the paving, held up art or insignia relevant to the paving, or served some other purpose is not known. At this point we also cannot determine if these were installed at the time the paving was originally constructed, or were added later (further excavation is needed). The care and labor that went into building this entire set of features in the southeastern corner of the compound's courtyard is notable and suggests that this area served an important purpose for those dwelling in the Western Compound. It should be noted that the white stone paving found in Trench SES 1 was also located in the southeastern quarter of the eastern compound's courtyard and also sloped north to south, suggesting that this location and orientation may have been meaningful to the Agglutinated phase inhabitants.

In the final two days of the 2017 season three child burials were discovered in the F159 stone paving. In each case it appears a stone was removed from the paving in order to install a child burial. These stones were not replaced. By the 2018 season it had become clear that these burials were neither contemporary with the other burials mentioned above, nor with the F159 stone platform. They had been cut into the stone platform at a later date, possibly as early as the Pre-Omphalos phase, but more likely at some point during the construction of the Omphalos Building in the second half of the fourth millennium.

The three burials (F160-162), in a triangular layout in the platform (see Fig. 7b), were either contained within, or covered by, red or black burnished jars. All three were primary burials in flexed position; one (F160) had phytoliths associated, suggesting that the children may have been wrapped in mats. The child in burial F160 was approximately 1 year in age, the child in burial F161 was 3-3.5 years old, and the one in burial F162 was two years of age (Y. Erdal, pers. communication 2018). All had multiple burial goods (Fig. 8a-b; see Yildirim *et al.* 2018 for discussion).

The most westerly burial (F160) was lying on a black burnished jar and covered with a red burnished jar, around which mud had been packed. It was in the worst condition, but the



Fig. 8. a: close-up photo showing Omphalos Bowl (with animal bone) in child jar burials; b: photo of the selection of metal jewelry found in the child burials.

head appears to have been to the northeast, the body lying on its left side, possibly facing east (the left arm was found under the body). This burial contained a copper hair slide and three copper bracelets. The center burial (F161) was in the best condition. It was contained at the bottom of a black burnished jar; the skull was located to the north and the body was placed facing west; the ankles were crossed. This burial contained an Omphalos Bowl with an animal bone in it, along with five copper bracelets/anklets and a copper hair slide. The most easterly burial (F162) was inside a black burnished jar; the legs were tightly flexed and the body was laid on its right side facing west, with the head to the north. This burial contained six copper bracelets/anklets with several other copper fragments.

Analysis of the burial goods suggests that they date to the second half of the fourth millennium (Steadman *et al.* 2018), and the stratigraphy (insertion into the platform) confirms that they post-date the F159 stone platform construction. At present we link the burials with the foundation of the earliest or middle phase of the Omphalos Building (ca. 3400-3100 BCE). The F159 stone platform and associated features clearly existed during the Pre-Omphalos light industry phase. The insertion of the burials into this pre-existing complex would suggest that this area was considered special in the first half of the fourth millennium, and that it remained an important area of the Western Compound into the second half of the millennium.

At the end of the 2017 season the complex had not been entirely exposed, and even at the end of the 2018 season more remains to be uncovered. In the 2017 season and for most of the 2018 season we were uncertain whether the F159 and associated complex should be dated to the Pre-Omphalos period, most closely contemporary with the earliest stages of the Burnt House to the east, or whether it should be linked with the earliest exposed phase, the Agglutinated. As noted above, in the last two days of the 2018 season, a very similar stone platform, built of similar non-local white limestone, was discovered in Trench SES 1, resting on the outer courtyard floor associated with the Agglutinated complex. By the close of the 2018 season we were able to stratigraphically link the Eastern and Western Compounds based on the existence of these two stone platforms and the emergence of mudbrick wall outlines in the Western Compound that mirror those excavated in the Eastern Compound. The Lower Town Late Chalcolithic settlement came into focus in 2018.

## THE UPPER TOWN LATE CHALCOLITHIC OCCUPATION

The Late Chalcolithic “Upper Town” can be found in Trenches USS 9-10, an area of ca. 16×6 m. The 2018 exposure in these trenches is largely contemporary with Burnt House and Courtyard Subphase 2 (see Table 1). The Upper Town consistently rested above the Lower Town at an elevation of approximately 1.6-1.7 m throughout the Late Chalcolithic and the Early Bronze I periods. Two phases of architecture were excavated in 2017-2018, each with a number of subphases. Throughout the 2017 and 2018 seasons the Upper Town architecture was bisected by an open pathway that is actually the Upper Town continuation of the “street” in the Lower Town. This Upper Town street consisted of hundreds of replastered floors, demonstrating constant renewal. This street remained in existence until it was blocked in the Apsidal or Early Bronze I period (Steadman *et al.* 2017: 223).



Approximate Periodization	Western Compound Phases (Trenches LSS 3-4)	Eastern Compound Phases (Trenches LSS 5, SES 1-2)	Radiocarbon Date
ca. 3800-3700 BCE		Agglutinated Subphase 1	
ca. 3700-3600/3500 BCE	Stone Paving & ***	Agglutinated Subphase 2	Beta #134069 3705-3620 BC (Cal BP 5655-5570)
ca. 3600/3500-3300 BCE	Pre-Omphalos Phase	Burnt House & Courtyard Subphase 1	Beta #159391 3650-3340 BC (Cal BP 5600-5290)
ca. 3300-3200/3100 BCE	Omphalos Building Phase	Burnt House & Courtyard Subphase 2	Beta #391309 3335-3210 (Cal BP 5285-4970)
ca. 3100-3000 BCE		Apsidal Phase	Beta #391304 3140-3020 (Cal BP 5090-4970)

Table 1. Late Chalcolithic occupational phases discussed in the text.

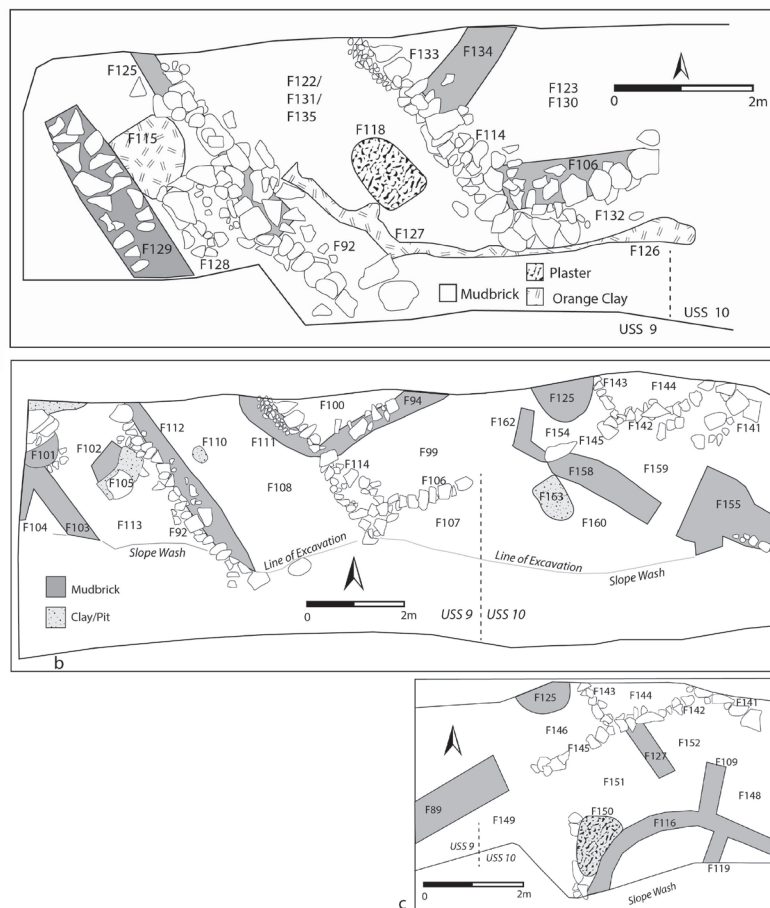


Fig. 9. a: plan of USS 9-10 earlier Subphases 1a-c; b: plan of Subphase 2a; c: Plan of Subphase 2b.



### USS 9-10 2017 and 2018 Excavations: Earlier Phase

The earlier phase<sup>5</sup> was excavated in 2018 and can be divided into three subphases (1a-c, with “a” being the earliest phase); we believe that this earliest exposed phase is contemporary with the Burnt House and Omphalos Building in the Lower Town. Subphase 1a (Fig. 9a) was left largely unexcavated at the end of the 2018 season. The street (F135) is bounded by a stone wall on the west (F92) and one on the east (F114). There are a number of architectural features west of F92 and east of the large stone and mudbrick wall at the western end of USS 9 (F129) which are not yet entirely exposed and thus remain enigmatic. The F129 wall appears to create an “alley” or area next to the street in which small stone features are built and deconstructed from phase to phase. East of the street, the F114 wall corners with the F106 stone wall, which extends eastward ending in a doorway and creates what may have been the southern edge of an Upper Town compound. In the center of Trench USS 9 Subphase 1a, the F134 mudbrick wall extends to the northeast from wall F114, creating two rooms (F133 north of it, F130 to the south). Both rooms had clay floors sloping from north downward to the south. The F133 brown clay floor was badly burnt with an ashy fill and an *in situ* pot base. The small area of exposure prevents us from interpreting the use of the room. The F130 floor consisted of white clay with a veneer of hard-packed micaceous clay; this area may have been used for the storage of clay in preparation for ceramic production, a craft performed in this area in later phases (Steadman *et al.* 2017: 219-223). The high number of sherds and partial vessels recovered from F130 further supports this interpretation. To the south of wall F106 was an open courtyard (F132) extending eastward; with the exception of a small test area in USS 10, which demonstrated that F132 does indeed extend eastward, this more easterly trench has not yet been excavated to the depth of the USS 9 trench at the end of the 2018 season. The F132 courtyard consists of the same hard-packed plaster and pebble surface found in the F135 street.

There are four notable changes in Subphase 1b (see Fig. 9a). First, a doorway was cut into the F92 western street wall. This doorway (F125) provides access to the “alley” between wall F129 and F92, which now holds the second change, a stone-lined bin (F128); the purpose of this bin remains uncertain. The third change is the construction of a drainage system. A well-made orange clay-lined and plastered drain (F127) was built from the F92 wall, first extending southward along the wall, then across the F135 (and in this phase, F131) street, and then extending eastward (F126, 127) to the south of F106. Over 4.3 m of drain were excavated; it contained ancient debris, including a surprisingly large amount of slag and many well-preserved twigs. It allowed water that collected in the street, perhaps from rooftops, to be directed away from the Upper Town to the eastern edge of the settlement. The fourth and final change was the removal of the F134 mudbrick wall, creating a larger open room (F123) which consisted of the brown clay found in the earlier F133 floor. This F123 floor had been swept clean.

A few more changes in Subphase 1c (see Fig. 9a) suggest adjustments in the usage of the area. In this phase an oven (F115) was placed between the western F129 (F120 in Subphase 1c) wall and the F92 street wall; the F128 bin had been filled in and covered with

<sup>5</sup> The phasing and subphasing employed here is used to clearly represent the archaeological work in the 2017-2018 seasons and should not be considered permanent; further analysis may alter the entire sequence of subphases in these trenches.

a hard-packed work surface. An ash pit (F118) in the street (named F122 in this phase) is an odd occurrence; it may contain the refuse from the oven F115. One possible interpretation for these features is a short-term abandonment; another is that it is related to a rebuilding of the drainage system, remnants of which were found at the edge of the trench.

### USS 9-10 2017 and 2018 Excavations: Later Phase

The later phase, excavated in 2017, consists of Subphases 2a-b (Fig. 9b), and is likely contemporary to the end stage of the Burnt House and/or the Apsidal phase. In the earlier Subphase 2a (the street is now F108), the bounding F92 and F114 walls remain the same, and the top of F106 extending eastward from F114 is visible; it ends, at the east, in a doorway allowing access from the courtyard (F107) to the room north of it (F99). Interestingly, a pit (F110) in the F108 street contained a canine skull; unfortunately, though this is a unique occurrence, we cannot define what this burial might mark at this juncture. At the very western extent of USS 9 a mudbrick wall, F103 (connected to a poorly-preserved F104 wall), was built in this subphase. The area between these walls consisted of a surface (F113) that supported a badly-preserved ceramic workshop. In the northwest area of F113 was a round oven (F101) which contained numerous pottery fragments. To the southeast, the previous-phase F115 oven (see Fig. 9a) had been sealed to create a rectangular pit (F105) approximately  $1 \times 0.42$  m in size, complete with a mudbrick bench (F102) on its northern edge; the pit was filled with numerous layers of burnt material which was likely waste material from F101. In the intersection between walls F103 and F104 a badly-preserved infant pot burial was recovered.

East of the F108 street and F92 wall were a series of spaces. Stone and mudbrick wall F94, on a slightly different orientation than F134 in the earlier phase, created two rooms (F99, F100). Both rooms had sloped clay floors, mirroring floors from later phases excavated in 2016 (Steadman *et al.* 2017: 219). Few finds were left in either room. It is possible that these areas, with their well-made but narrow stone walls, may have been the opening courtyards to domestic or public buildings located to the north. The shapes of these courtyards appear similar to those in the Lower Town Burnt House phase to the south. The larger room, F99, was bordered on the east by a mudbrick wall (F162) and a mudbrick platform (F125); the latter's purpose is unclear though it provided a leveled surface on the sloping F154 floor. This area (F125, 154), bounded on the south by stone wall F145, may have been a storage bin, but the only contents consisted of red gravel material not found elsewhere at the site.

To the east, stone wall F142 created two more rooms, the one to the north, F144, bounded on the west by stone wall F143, and wall F141, which may belong to another complex to the north and east. Floor F144 consisted of the brown clay that is the norm in these phases, and may have been an indoor surface. South of this were two mudbrick features, wall F158 and wall/platform F155, both of which form a doorway into, and the southern boundary of, a room (F159). The F159 floor sloped, as usual, from north to south and consisted of well-preserved brown clay. We recovered a highly oxidized copper fragment, a large number of unbaked clay ovoids, and a spindle whorl from this room, in addition to a large amount of pottery. This was likely a workshop space.

In Subphase 2b (see Fig. 9c) the architecture on either side of the street (most of USS 9) remained unchanged (see Steadman *et al.* 2017), but numerous adjustments were made to the architecture east of the street in USS 10. While the F141-143 walls remained in use, as did the F125 mudbrick platform and the F144 room, the F158 and F155 mudbrick walls did not. Instead, the southern half of the trench was quite different. New mudbrick walls (F109, 116, 127) were built which created three rooms (F148, 151, 152), all of which had the typical sloping brown clay floors. As was the case in the earlier phase, a number of unbaked clay ovoids were discovered, on F148 in this phase, as was a large ground stone. Walls F116 and 119 bounded a large oven, partially destroyed by slope erosion; this is the first of six ovens found in this precise location (see Steadman *et al.* 2017: 221). An ash pit (F150) rested next to this oven. This was likely a kiln used for making ceramics. It is clear in this later phase that the area is devoted to workshops and light industry, possibly taking up the slack for these activities as the Lower Town is transitioning away from the robust occupation found in the earlier Late Chalcolithic (see Hackley *et al.* 2018; Steadman *et al.* 2018, 2019a).

## THE WESTERN SLOPE EXCAVATIONS

Excavations on the Western Slope first began in 2015 (Şerifoğlu *et al.* 2016) in two 10 × 10 m trenches: WSS 5 and WSS 15 (WSS 4-5 are west of WSS 14-15; see Fig. 1). Work in WSS 5 revealed what we believe to be a 2<sup>nd</sup> millennium BCE destruction layer immediately below topsoil and slope wash. In 2017 and 2018 we turned our attention to the area up the slope in the two adjacent trenches, WSS 14 and WSS 15, where we focused on investigating the stratigraphic relationship between the three broad phases identified on the Western Slope so far: Phase 1, Late Roman or Byzantine; Phase 2, Late or Middle Iron Age; Phase 3, Late Bronze Age.

### Phase 1: The Late Roman or Byzantine Level

Phase 1 is represented by an enormous pit (F4), first encountered in 2015 and currently partially exposed over an area of 2.5 × 1.7 m extending across both WSS 14 and WSS 15. Pit F4 is filled with an entirely sterile deposit of pebbles and river stones and sealed by a hard-packed layer of pale gray clay approximately 20 cm in thickness (Fig. 10a). The total depth of the pebble deposit itself is 4 m, with an uppermost layer of coarse grit, below which lies a layer of small pebbles, and finally a layer made up of large riverbed stones at the bottom (Fig. 10b). These successive fills have clearly been carried up to the mound from elsewhere, suggesting that pit F4 was a planned large-scale construction, possibly with a drainage-related function, and also as part of a landscaping project. The absence of any archaeological material from the pebble deposit makes it impossible to date this pit with any certainty, but our current inclination is to attribute it to the Late Roman or even the Byzantine period, though eastern slope excavations in 2013 caught the very edge of a similar pit that dated to the late Iron Age. The original level from which F4 was dug is not preserved. However, it is clear that the pit's western edge cuts into the layer of clay fill that had built up against the eastern face of an earlier wall F1, F3 which is likely to have been appropriated into the construction of F4 and repurposed it as a retaining wall.

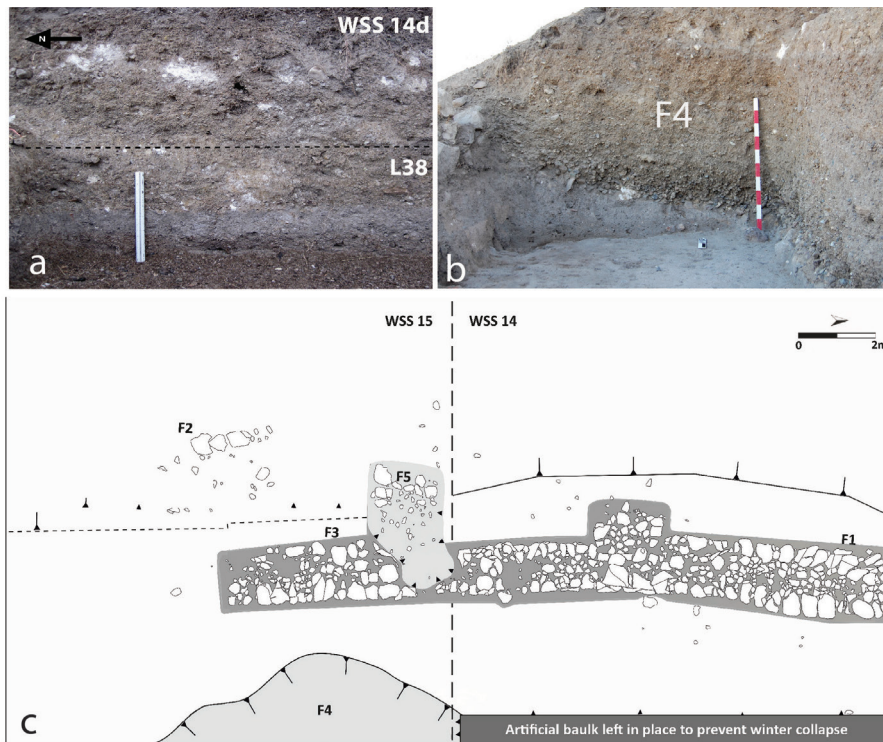


Fig. 10. a: east section of Trench WSS 14, showing the clay layer sealing pit F3; b: north section of WSS 14 showing the cut of pit F3 into the clay packing built up against wall F1/3; c: plan of Trenches WSS 14-15 showing features associated with Phases 1-2 discussed in the text.

## Phase 2: The Iron Age

The only architectural remains exposed on the Western Slope thus far belong to Phase 2, the most prominent feature of which is a 1 m wide stone wall (F1 in WSS 14 and F3 in WSS 15) running ca. 14 m across trenches WSS 14 and WSS 15 (Fig. 10c). This in all likelihood was a perimeter wall which continues in both directions. The exposed portion of the wall in WSS 14 (F1) is made up of two well-preserved vertical courses of neatly cut rectangular blocks. A small patch of plaster on the eastern face of one of the uppermost blocks indicates this to be the inner face of the wall. We have not yet identified an associated surface. On its western face, F1 is equipped with a buttress measuring approximately 1 × 2 m, positioned just where the wall has a slight bend as it follows the curve of the mound. The buttress seems to have been part of the original construction rather than a later addition.

A possible doorway, originally thought to be an area robbed of stones, rests near the southern end of wall F3 in WSS 15. It was identified as a doorway after the discovery of a small posthole (F7, not shown on drawing), approximately 7 cm in diameter, which was preserved in the clay packing of the threshold. Leading up to the doorway is a stone platform (F5) and southwest of F5 is a row of flat stones (F2) which seem clearly arranged as steps connected to threshold F5 in the unexcavated area between which separates these two features.



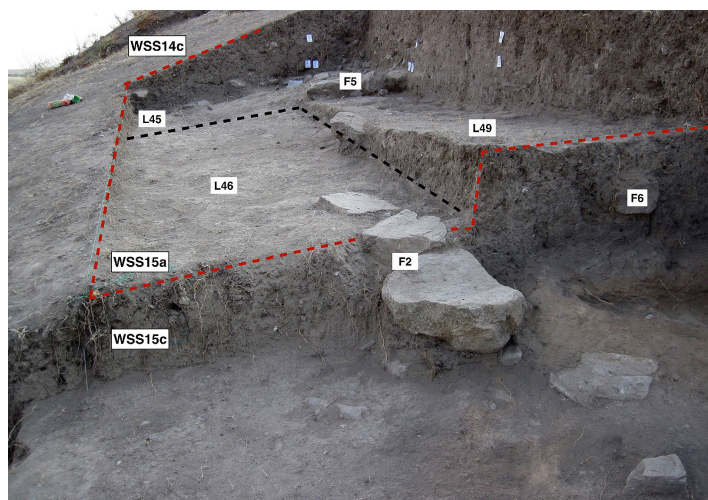


Fig. 11. Northeast corner of trench WSS 15 showing the stratigraphic relationship between stepped feature (F2) in the foreground and the burnt layer below. Step/platform F5 visible in the background.

It is significant that the F2 steps immediately overlie a layer of burnt floor and mudbrick (Fig. 11), very much in the same way that Iron Age fortifications have been constructed directly over the debris of the Late Bronze Age fortification on the northeast side of the mound (Steadman *et al.* 2013, 2015). It is possible that the doorway and threshold (F5) associated with Wall F1 and F3, if indeed part of the original Iron Age construction, might indicate the location of an earlier counterpart.

This means that reaching the 2<sup>nd</sup> millennium BCE levels below Phase 2 architecture presents a good chance of locating the entrance into the Hittite town.

### Phase 3: The Late Bronze Age

Represented only by two small exposures of burnt debris in WSS 5 and WSS 15, Phase 3 remains uninvestigated. Its stratigraphic relationship with Iron Age architecture in WSS 15 suggests that this phase represents the fire horizon associated with the destruction of a 2<sup>nd</sup> millennium BCE occupation on the mound. A bronze pin<sup>6</sup> recovered from the burnt floor in WSS 15 and dated, on stylistic grounds, to the mid- or late 2<sup>nd</sup> millennium BCE, offers a *terminus post quem* (Steadman *et al.* 2017: 230). Therefore, we believe that the Phase 3 exposure in WSS 15 corresponds to the Late Bronze Age with a Middle Bronze Age to Late Bronze Age transitional layer lying just below it, which was partially exposed in WSS 5 in 2015. A similar stratigraphy was excavated on the eastern slope in previous seasons (Steadman *et al.* 2013, 2015; Steadman and McMahon 2015).

Our more recent work on the western side of the mound is allowing us to better understand how the inhabitants at Çadır Höyük used this part of the settlement over the course of at least two millennia. Though as yet we have only a small exposure, it appears that this area was in use at least by the Middle Bronze Age and continued into the Middle or Late Iron Age without much interruption. The steep slope probably did not allow later inhabitants to use this side of the mound efficiently, but the slope was subject to an extensive engineering project sometime during the Late Roman or Byzantine period. The principal focus of future excavations on the West Slope will be to investigate the 2<sup>nd</sup> millennium levels below the Iron Age.

<sup>6</sup> The pin (FCN number 18257) was studied and provisionally dated to the second millennium BCE by Dr. Stefano Spagni, the project's metals specialist.



## THE BYZANTINE EXCAVATIONS ON THE MOUND SUMMIT

The past two seasons of excavation at Çadır Höyük have proven pivotal for our understanding of the development of the site in the Middle Byzantine period. The 2017 and 2018 seasons expanded our understanding of the Byzantine occupation of the mound, and we now have a tentative phasing for the use of this space from the 9<sup>th</sup>-10<sup>th</sup> century through to the 12<sup>th</sup> century. As noted above, our 2018 season was, in large part, devoted to “problem-solving” prior to our planned 2019 study season. Many, but of course not all, of our questions were indeed answered by the close of the 2018 season.

### Byzantine Occupation Phases on the Mound Summit

By the close of the 2018 season we had tentatively identified seven phases in the summit exposures. These will be used in the context of this article but of course are subject to revision as we continue our analyses and future excavations. The first two phases are the earliest: Phase 1 is Late Roman (4<sup>th</sup>-7<sup>th</sup> centuries CE) in date; Phase 2 may be considered Early Byzantine (7<sup>th</sup>-9<sup>th</sup> centuries). The remaining five phases reflect building (and temporal) phases in the 10<sup>th</sup> through 12<sup>th</sup>-13<sup>th</sup> centuries CE on the summit.

#### *Phases 1 and 2: The Late Roman (4<sup>th</sup>-7<sup>th</sup> Centuries CE) and Early Byzantine (7<sup>th</sup>-9<sup>th</sup> Centuries CE) Occupations*

This earliest phase (Phase 1) is primarily dateable from the North Terrace excavations, discussed in the last report published in *Anatolica* and elsewhere (Cassis 2009; Cassis and Steadman 2014; Steadman and McMahon 2015, 2017; Steadman *et al.* 2017). Several coins ranging between the 4<sup>th</sup> and 6<sup>th</sup> centuries were recovered from North Terrace excavations, along with good quality, locally made red slip ware. In our 2017 mound summit excavations we opened a new trench, USS 1 (see Fig. 1) to a 5 × 5 m extent, in order to trace the trajectory of the Byzantine defensive wall to the southwest. These excavations exposed a large entryway with a deconstructed gate (see below), part of which contained a Late Roman brick with a raised cross on it (F4). South of this entryway the trench extends partially down the mound slope; here we exposed caches of Late Roman red ware, further suggesting that there was a Late Roman phase on the mound itself. Phase 2 is also primarily known from our previous North Terrace excavations (Cassis 2009; Cassis and Steadman 2014), but is also found on the summit in the form of what appears to be an initial attempt to fortify the mound summit (though with a far smaller wall), extant in the southeastern quadrant of the mound summit. This Phase 2 wall was eventually encompassed by the much larger and better-built 10<sup>th</sup>-11<sup>th</sup> century fortification wall.

#### *Phases 3-7: Fortification, Rebuilding, Destruction/Abandonment, and Reoccupation*

These five phases of occupation are compressed within the 10<sup>th</sup> through the 12<sup>th</sup> or 13<sup>th</sup> centuries CE. They define shorter periods of time than the first two phases, characterized by architectural changes on the mound.

Phase 3 may be considered a period of “Fortification and Building Construction and Use.” At the beginning of the Middle Byzantine period, either at the end of the 9<sup>th</sup> century or

the beginning of the 10<sup>th</sup>, intense effort was put into fortifying the mound. The original use of this space seems to have been largely devoted to processing and storage, based on the absence of clearly domestic structures and the presence of large numbers of processing materials, including ovens and ground stones. Examples of this are discussed below in relation to SMW 1 and 2, and SMT 14 and 9 (see Fig. 1).

Phase 4 is a period of “Rebuilding.” As became clear in Trenches SMW 1 and 2, discussed below, there was rebuilding of the walls over the course of the 11<sup>th</sup> century. More rooms were built and existing rooms were subdivided, particularly in areas associated with the fortification walls; additionally, the fortification wall took on a more obviously defensive character. Phase 5 can be considered a period of “Final Rebuilding” not long before the destruction phase on the mound. A concerted rebuilding of a number of walls occurred, more consistently using mudbrick rather than stone. This suggests a more intense domestic occupation of the mound, possibly in the face of an impending attack. It ends with an attempt to shore up parts of the mound, and block entrances. This is particularly evident in SMW 6 and likely USS 1, discussed below.

Phase 6, a “Destruction and Abandonment,” and Phase 7, “Reoccupation,” see the final usage of the mound summit. Based on numismatic evidence we are able to date Phase 6 to the mid-11<sup>th</sup> century. There was an attack on the settlement, and some left on the mound were killed, including two people in SMW 1 and in USS 2 (the western and southern sides of the summit), identified as guards or soldiers based on the presence of associated weaponry, armor, and reliquary crosses. Evidence of an attack on the mound has been identified in various places across the summit over previous years of excavation; the 2017-2018 recovery of skeletal material and the objects noted above confirm that such an event took place. The perpetrators of the attack have yet to be determined with certainty, but are probably either mercenaries that had broken away from the Byzantine army or early Turkic groups. The Phase 7 “Reoccupation” phase consisted of ephemeral reuse of the east side of the mound by a transitional population, probably Turkic in origin, and probably dating to the post-12<sup>th</sup> century, based on ceramics analysis (Steadman *et al.* 2017).

### **The 2017-2018 Excavations on the Summit**

Three main areas on the summit were investigated during the past two years: the series of rooms and fortification wall on the eastern side of the mound (SMT 9, SMT 14, and SMT 20), the top of the southern slope of the mound (USS 1-2), and the west summit (SMW 1-2, SMW 4, and SMW 6). The results from these trenches have allowed us to assess the different uses of areas across the mound, as well as the evolution of the use of this space over the course of the Middle Byzantine period.

#### *The Byzantine Fortification Wall and Architecture on the Eastern Summit (Trenches SMT 9 and 14)*

Trenches SMT 9 and SMT 14 are adjoining trenches on the eastern side of the summit, the former trench first opened in 2016; this area includes space inside the fortification wall described previously (Steadman *et al.* 2017), and contains the highest point on the mound. Limited SMT 9 excavations in 2017 revealed F23, a very hard compacted mudbrick surface

in the “courtyard” south of the series of rooms that were built against the fortification wall. After determining that F23 extended across the entire courtyard area, we removed F4, a stone and mudbrick bench, built near the entrance to Room 3 (Fig. 12). Underlying bench F4 was another mudbrick surface (F24) and finally beneath this was a large grinding stone with two holes drilled into it. The stone was laid flat with mudbrick packed around the edges. The stone sealed a pit (F26) cut into the F23 surface against the north-south oriented F17 wall. Fill inside the pit (L27) was loose, sterile brown soil.

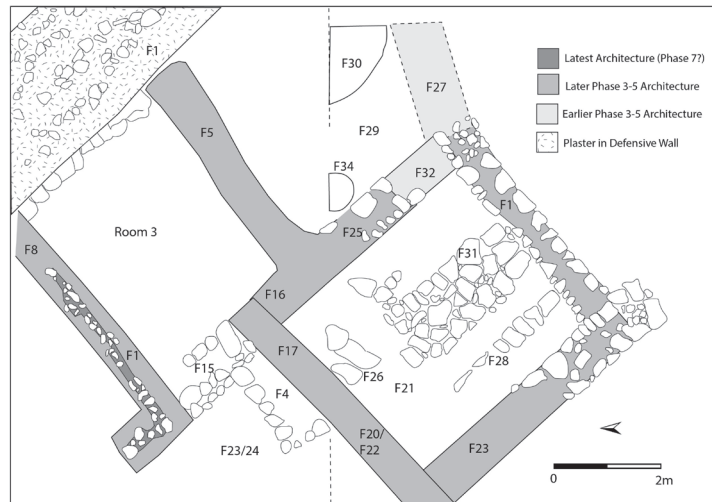


Fig. 12. Plan of Trenches SMT 9 and SMT 14.

The 2017 excavations in the adjoining SMT 14 trench were also limited; the majority of this trench, which included a stable full of animals and a storage building, was excavated by M. Cassis in 2004 (Cassis 2009). The work in 2017 allowed us to connect these earlier excavated areas with our more recently exposed series of rooms flanking the fortification wall (Steadman *et al.* 2017). After removing several topsoil loci, the SMT 9 F17 wall was discovered to continue into SMT 14 (F20). South of wall F20 we removed several loci to expose a mudbrick surface, F21, which is equivalent to the one found in SMT 9 (F24). Here the mudbricks were clearly visible, laid in diagonally-oriented courses with clear mortar lines (a similar surface was found in SMW 6 in 2017). These surfaces may well date to the Phase 7 final reoccupation of the mound in the 12<sup>th</sup> or 13<sup>th</sup> centuries.

West of the SMT 14 F20 wall we excavated two loci containing fragments of orange mudbrick and large stones. This revealed another mudbrick wall, F23, which is linked to the stone wall of a storage building excavated by Cassis in 2004. Removing these loci also exposed an earlier stone wall (F22) below the mudbrick F20 phase of the wall. This is consistent with architecture that we excavated in SMT 9 in 2016, and may date to either a rebuilding phase or the final reoccupation (Phase 7).

In this SMT 14 complex of architecture, bounded by walls F20/22 and F23 and a wall of the storage building mentioned above (not shown on drawing), we found a large cache of architectural debris in a “closet” or small storage compartment, roughly 1 × 1.5 m in size. In this pit were 80 roof tile fragments, several worked stones, and a granite threshold stone. Also resting in this pit was a rectangular worked stone with a Greek inscription (Fig. 13). A preliminary reading suggests it is a standard Byzantine funerary message, although the second half is much degraded. One interesting feature of the stone is that it appears that figural imagery, which

was originally present, was deliberately chiseled off before the stone was deposited in the pile of architectural debris. This debris appears to belong to the final, ephemeral Phase 7 use of the mound, and may represent a clearing of the parts of the mound that were used by this final population.

At the northern edge of SMT 14 we cleared a very well-built wall (F25) consisting of well-shaped stones at its edges; it is built differently from other walls

on the summit, which tend to be made with irregularly shaped fieldstones. We also found F26, a group of several large stones placed against F20 to form a kind of platform. Inside this roughly square room, we uncovered what appears to be a storage bin (F28), comparable to one excavated in the adjacent SMT 13 years ago. The most significant architectural find in this area, however, was F31, a section of stone paving in the center of the room. This feature does not appear to be a fragment of a larger paved floor, but to have originally only been about three stones wide. The relative dates for these elements are uncertain at present.

East of this room is another set of architectural elements which include a wide mudbrick wall (F27) that has yet to be fully excavated. F29 is a hard-packed pebbly mudbrick surface in this area cut by a pit (F30) meant to hold multiple large pots. Just below F29 we also discovered a 7 cm wide *tandır* oven (F34), the fill of which contained fragments of wall plaster that we have previously found associated with early leveling fills. These elements seem to date to the original construction of the fortification, which was established on top of both Iron Age and Late Roman occupation.

The phasing of architecture in SMT 9 and 14 is not always clear. The courtyard surface (F23 in SMT 9) once continued at least partly across SMT 14. F20 in SMT 14 is built over fill that accumulated in a cut in the mudbrick surface as well as over an original, undisturbed section of the surface. Features 23 and 24 in SMT 14 postdate F20. It is safe to say that Phases 3-7, with some gaps, are represented in these two trenches. Certainly the fortification wall, storage building, and stable, all excavated in previous seasons, represent Phases 3 through 5; some of the architecture described in this section may date to Phase 7. The complicated stratigraphy of building, reorganization, abandonment, and reoccupation is challenging to trace even without the added complication of meters of overburden.



Fig. 13. Byzantine funerary stone showing Greek inscription and destroyed figural image (upper right).

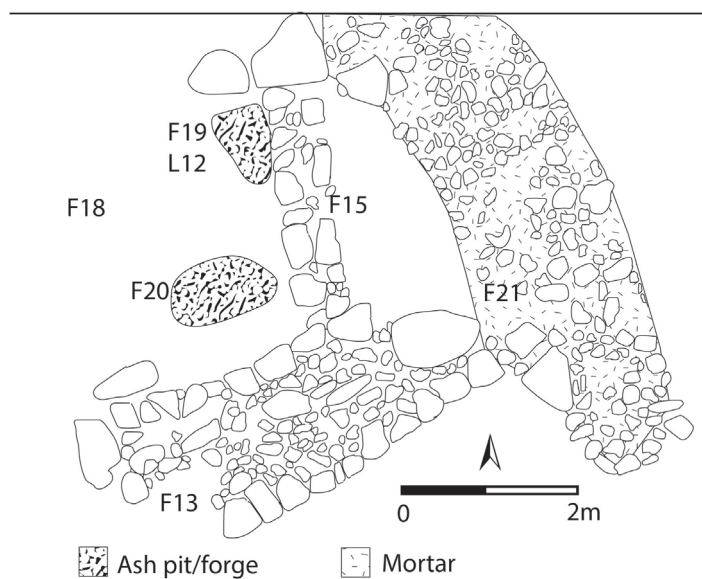


Fig. 14. Plan of Trench SMT 20.

*The Byzantine Fortification Wall and Architecture on the Southeastern Corner (Trench SMT 20)*

In the 2017 excavation season, the southeastern corner of the summit was excavated (Trench SMT 20) with the intention of defining the 2004 excavation of the fortification wall and to understand the context of the earlier gate on the southeastern side of the summit (Cassis 2009). The small room in the southeastern corner was discovered to be much more complex than a

simple guard or tower space. The plaster floor (F18) contained two pits (Fig. 14), one circular (F20) and a smaller oval pit (F19), which were clearly related to metallurgical work based on the debris found within them. It is unclear whether this work took place in the open air or within a structure, but the choice of location is consistent with the prevailing winds which come primarily from the north and would have blown smoke and fumes southward away from the summit.

The smaller oval pit (F19) was built into the F18 floor matrix and then covered with packed mud, which preserved the contents. The fill in the pit (L12) contained burned material, and the bottom of F19 was packed with small iron flakes embedded in the surface from use over time. Large stones rested at the base of the pit. Also contained in F19 were several pieces of ceramic that originally made up a *tuyère* along with a large piece of burnt wood which appears to have been a tool. Numerous pieces of slag were recovered, as were small metal tools, and a piece of iron ore. The *tuyère*, iron ore, and charcoal allow for the most probable interpretation of this pit as a bloomery forge. The larger circular pit (F20) was cut from the F18 surface, making it later than the F19 oval pit. The F20 pit was ca. 30 cm across and was not lined but rather simply filled with mudbrick and stones. The mudbrick surface was heavily blackened and burnt.

Excavations at Kinet Höyük in southeastern Turkey offered a similar set of features (Redford 2012). Two pits, similar in size and proximity to those at Çadır, served as a two-chambered pit furnace. At Kinet it was the larger pit that was used as the forge with the smaller pit showing less evidence of burning. The date for the Çadır installation is currently uncertain.

*The Southern Passageway and Drain on the Western Summit (Trenches SMW 1-2)*

Excavations over the past two years were intended to provide insight into the relationship between the rooms in SMW 1-2 (see Fig. 1), as well as a better understanding of the



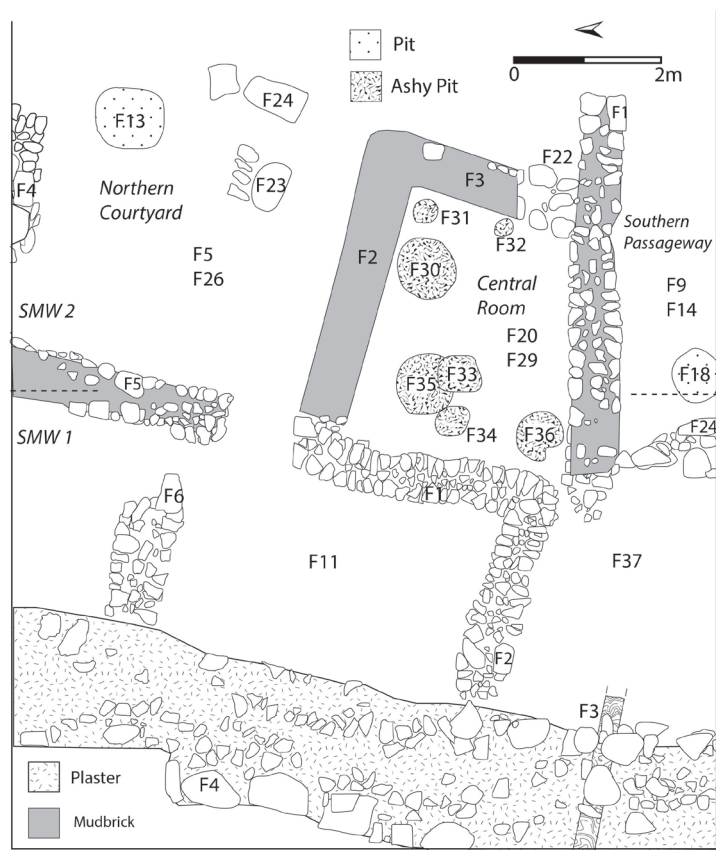


Fig. 15. Plan of Trenches SMW 1-2.

phasing of the drain system noted in a previous publication (Steadman *et al.* 2017). The focus in 2017 was further exploration of the western half of SMW 2 which can be separated into three spaces bounded by walls F1-3 (Fig. 15): the Northern Courtyard, the Central Room, and the Southern Passageway. In 2018, we returned to the southern edge of SMW 1 to conclude our excavations of the drainage system, and we finished excavations of the extant phase in SMW 2.

The SMW 2 Northern Courtyard is located north of the F2 wall and east of a stone wall (F5) in SMW 1. The courtyard contained several large free-standing stones (F23-24) which we believe were used as furniture pieces in

one of the final occupation levels (Phase 5 or 6). F23, in particular, is in line with the entry-way formed by walls F1 (in SMW 2) and F5 in SMW 1. Additionally in SMW 2, there was a clear surface (F5) throughout the majority of the courtyard except along the northern side of wall F2 which may have been a pathway (this locus held concentrations of charcoal and wood splinters). A number of pits were scattered across this courtyard. Pit F13 was clearly cut from SMW 2 surface F5; it was 36 cm deep, had a nearly 1 m diameter, and was very carefully constructed with a hard compacted lining. Within this pit, pieces of an adolescent's skull were recovered; later analyses revealed that the head had suffered a puncture wound (Y. Erdal, pers. communication, 2018). It should be noted that in 2017 loci excavated above the surface in SMW 2 contained a considerable number of mixed bones, some of which were human. These belonged to adolescents, and included vertebrae, phalanges, and 2 separate right maxillae. In 2018, we continued excavations of this space by removing the F5 surface on which wall stub F4 (in the northern baulk) rested. Directly below wall F4, in what we originally interpreted as the foundation trench (F39), was an infant burial, only partially recovered due to its location. It is unclear whether the burial was inserted under wall F4 after it was built (thus dating somewhere in Phase 5-7), or as a type of foundation deposit at the time of building (possibly Phase 5).

The 2018 removal of the Northern Courtyard F5 surface revealed yet another surface in the courtyard (F26), this containing an 11<sup>th</sup> century bronze coin resting on it (Michael IV Class C Anonymous Folles; Fig. 16a). The F26 surface continues through the entryway of the F1 and F5 walls (in SMW 1), and therefore appears to connect with the F11 surface in SMW 1. The presence of the coin is in keeping with the context of the rest of the mound in the Phase 6 destruction; the surfaces above it, as well as the human remains, may reflect the transition from Phase 6 destruction and abandonment to just before the Phase 7 reoccupation.

The SMW 2 “Central Room” (Fig. 15) is bounded by the walls F1 (in SMW 1) and the SMW 2 walls F2 on the south and north, and F3 and F1 to the east and west. Walls F2-3 both have a substantial layer of mudbrick above their stone courses, a construction not evident in the other walls in these two trenches, though we see this construction method on the eastern summit in Trench SMT 14. Additionally, SMW 1 walls appear to be constructed with a more consistent matrix than those in the other trench. SMW 1 walls F1-2 are constructed with five courses of similar sized stones, whereas F1 in SMW 2 was constructed of stones in a variety of shapes, with the large spaces between them packed with mud filling. Finally, the walls in SMW 2 are not consistently bound at right angles while the walls in SMW 1 are. The walls in these two trenches have been the source of many questions and team consultations over the past few years; one point of clarity is that the manner of construction and the rough addition of the SMW 2 walls to those walls in SMW 1 suggest that this Central Room in SMW 2 was a later addition, perhaps in the period immediately preceding the attack (late Phase 5 or early Phase 6).

This Central Room appears to have been a working space, as it contained a number of utilitarian and light industrial items, including various iron objects, slag, and two grinding stones on two surfaces (F20, 29). The upper floor/surface (F20), excavated in 2017, offered a high volume of metals, including a small metal knife blade, an iron bracket, and an iron vessel. Evidence of a threshing sled (based on lithic remains) was also recovered. All of these finds lend credence to the interpretation that this space consistently functioned as a working area from the time it was constructed. Underlying the F20 surface was another, F29, also excavated in 2017. The F29 surface was a very hard compacted multilayered floor, composed of a mix of mudbrick and plaster. The fill between F20 and F29 also yielded human bones. Resting on the F29 surface was an almost complete glass bracelet, one of the best examples we have found at this site to date. Seven pits were cut into this surface (F30-F36). F30 was the deepest and



Fig. 16. a: 11<sup>th</sup> century bronze coin found on F5 surface in Northern Courtyard (Michael IV Class C Anonymous Folles); b: mid-11<sup>th</sup> century coin found in Southern Passageway (Constantine X Ducas).

largest pit, with a diameter of 82 cm and a depth of 34 cm. The fill contained traces of charcoal and evidence of burning indicating that F30 was once used for cooking; in fact a *tandır* was still imbedded in the northern edges of the pit. Inside the F30 pit we recovered some ceramics and various animal bones, as well as a stone token, a metal hoop, and a human bone. The other smaller pits appear to contain the remnants of individual meals (see the Archaeozoological section below).

The Southern Passageway is located in the southern-most part of SMW 2 and east of the Drain and its associated courtyard in SMW 1 (Fig. 15). Our 2017-2018 excavations in this area were intended to better understand the drainage system; it is now clear that this system changed over time as the overall function of the site changed, until it was eventually blocked off (F24) during the latest phases (Phase 5-6) of Byzantine occupation. The 2017 excavations of a Southern Passageway surface (F9) yielded three coins, at least two of which date to the mid-eleventh century (Constantine X Ducas [Fig. 16b]; Michael IV Class C *Follis*; the third was too degraded to read). Beneath the F9 surface was another of compacted quasi-cemented material, F14, which seems to be connected to the drainage system to the west in SMW 1. Cut into the southwest corner of surface F14 was a pit (F18) which contained a high quantity of animal bones and fragments of cooking vessels. Excavations delved below F14 as well; ceramic analysis of these underlying layers suggests they are pre-Byzantine in date.

Our 2017-2018 excavations of the Southern Passageway and the Drain in SMW 1 (Fig. 15) have allowed us to hypothesize how the space was used in three different phases. In the earliest period, which probably corresponds with Phase 3, the drain (F3) was built as part of the original construction of the fortification wall (F4) to allow runoff from the summit's interior. Draining water traveled toward the outlet, pooling on a hard-packed mudbrick and plaster surface (F37), and then exited through the drain (F3). Uneven and broken plaster found up against the interior of the fortification wall reflects where water pooled (at times likely carrying debris consisting of harder objects which damaged the wall's interior). To guard against damage, builders packed in an unusual amount of mortar inside the wall and around the drain, to protect its foundations from erosion.



Fig. 17. Photo of SMW 1 rebuilt drainage with channel (F27) surrounded by quasi-cement packing (F25-26).

In the second phase of space usage in SMW 1 (Fig. 17), corresponding to the Phase 4 reorganization of space in the early eleventh century, the drain became a more controlled drainage system with a clear channel, possibly related to the evidence for processing and light industry on the mound. In this phase there was a compacted quasi-cemented surface built (F25 and

F26), that was cut by the drain channel (F27). The F27 drain channel itself had a stone lining (Fig. 17), though it was not very substantial. It is likely that a severe rainstorm may have overwhelmed the drainage system and that the channel construction was a final stop-gap measure before the drainage area was blocked in the third and final phase. The blockage is made clear by a large stone placed within the drainage opening in the fortification wall, and the substantial blockage on the eastern side of the mudbrick “drainage courtyard area” excavated in 2016–2017 (F24 on Fig. 15). This blockage of the drainage system may have occurred in concert with the repurposing of space described above, when the cooking pits and light industrial work areas appeared in the Central Room and Northern Courtyard in SMW 2. The eradication of the Drain and creation of the Southern Passageway likely occurred in the Phase 5 rebuilding period; how water was diverted off the summit in this phase and later is not yet clear.

Our 2016–2018 seasons of work in SMW 1–2 have made it abundantly clear that a wide variety of activities took place in multiple phases, ranging from working and cooking to the military related activities reported elsewhere (Steadman *et al.* 2017). The multiple rebuilding and repurposing of the architecture in these two trenches make the original wall orientations and divisions of space difficult to identify; while many questions remain, it is clear that inhabitants in the last stages of occupation made substantial changes to the original architecture to suit what appears to be a need for a protected space to house a growing number of people and activities.

#### *The Chapel (?) on the Western Summit (Trenches SMW 4 and SMW 6)*

We opened Trench SMW 6 in 2017 to follow the large Byzantine fortification wall on the western summit. We expected to find interior rooms ringing the wall, as these are the norm elsewhere on the mound (Steadman *et al.* 2017; Steadman and McMahon 2015, 2017). We did indeed discover interior architecture east of the Byzantine wall, but it was not quite what we expected. The architecture in this and the SMW 4 trench opened in 2018 serves as one of the “problems” that needed solving prior to our upcoming study season.

In 2017 two mudbrick walls (F10, F15) were revealed in SMW 6 that extended into

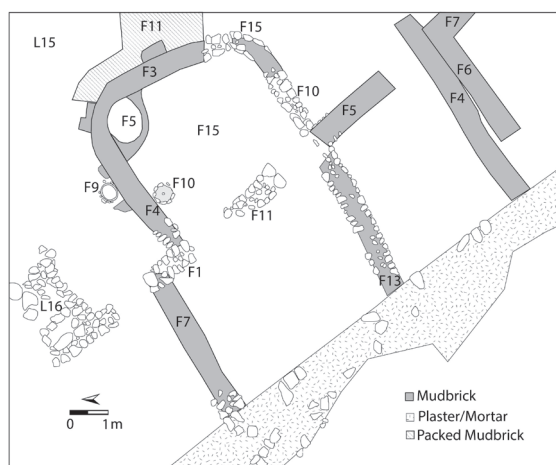


Fig. 18. Plan of Trenches SMW 4 and SMW 6.

the northern baulk. The curvature of the F15 wall (Fig. 18) necessitated the opening of SMW 4 in 2018; as was suspected in 2017, these walls continued their apsidal form into SMW 4 as F3–4, with other associated walls being F5, south of the apse, and F11 to the west in SMW 6, and F1 in SMW 4 (Fig. 18). We have interpreted this structure as a small, possibly somewhat hastily-built, chapel. The chapel room measures ca.  $3 \times 4.2$  m and is built on a SW–NE orientation.

There appear to be at least two construction phases in this complex. The earliest are walls F1 (SMW 4) and F11 (SMW 6), both ca. 70 cm wide and like-



ly originally a single wall, built of smaller stones placed between larger ones on the edges. Mudbrick was added to the tops of these walls, and both seem to have been repurposed for the construction of the new building/chapel. Stones were removed from the original wall to create a 65 cm wide passage at the time of the chapel construction, breaking the walls into two sections (F1/F11); this passage was eventually blocked by mudbrick debris, possibly in preparation for attack on the summit. The chapel walls comprise a later building phase, consisting of SMW 6 walls F10 (3 m long) and F15 (1.5 m long) and SMW 4 walls F3 (2.5 m long) and F4 (3.7 m long). All were built of rectangular mudbricks, some in good condition, which were laid on a stone foundation ca. 60 cm wide.

There are several attributes associated with this building that support its identification as a chapel. The placement of F11 in SMW 6 creates two gaps/openings on either side of the rough apse. A second set of architectural features are also notable; these include brick “stubs” on the exterior of walls F3 and F4 in SMW 4. These seem to be built intentionally and at regular distances, quite possibly serving as buttresses to help support a substantial roof such as a small dome. A 35 cm wide posthole (F9), lined in baked clay, next to one of these buttresses lends credence to the interpretation of a substantial roof design for this structure.

The interior of this building also yielded some unusual finds that lead us to believe this was a chapel room. In the northeast corner of the chapel space in SMW 6 was a mudbrick feature (F5) semi-oval in shape (Fig. 19a) and built against the interior curve of walls F3-4. This feature measures 80 × 115 cm and was likely some sort of furniture; it contained mudbrick pieces that may have once created partitions within the feature. It is likely that this feature was once capped with wood or other material and it may have been used for storage, as a table, or possibly both. Also found within the feature were two items, an amulet (Fig. 19c) and a complete pot base.

To the west of this feature, within a meter, was another (F10), consisting of a flat grinding stone (Fig. 19b) measuring ca. 50 cm in diameter. It had been intentionally laid over a raised platform sitting on the F15 floor of the building. Placed along its edges were some mudbrick pieces, tiles, and stones. This F10 grinding stone is identified as a base for an altar or table for the following reasons: first, there was a nail placed in the central hole of the grinding stone which would have been used to stabilize a wooden pole that would have sup-

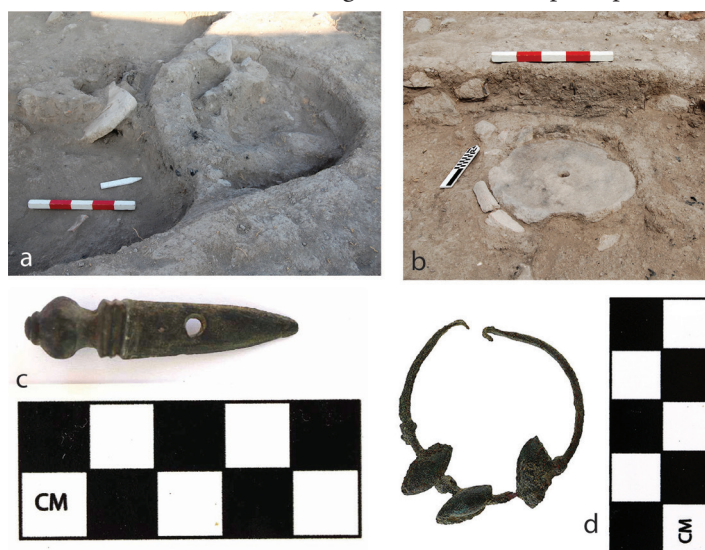


Fig. 19. a: photo of semi-oval mudbrick furniture (F5) in SMW 6, possibly a table or storage area; b: grinding stone (F10) laid over raised platform with nail in central hole; c: photo of amulet found inside F5; d: bronze earring found in L15 fill in Trench SMW 4 above what is likely a Byzantine burial.



ported a tabletop; secondly, located directly next to F10 was a massive piece of burnt wood found lying aligned to the east of F10; thirdly, F10 rested underneath two flat worked stones. One of these stones has two circular holes on its surface which would have been used to stabilize some particular objects that would fit in them, or perhaps through which liquid could be poured. The other stone has a Byzantine cross carved on one of its surfaces, and looked like a recycled grave stone. It should also be noted that the fill above feature F10 provided an unusual amount of charcoal pieces, which might be explained by a burnt wooden roof (or dome), or, potentially, an iconostasis, which may have been placed in the doorway discussed above (Fig. 20).

North of the structure and presumably outside of it, in SMW 4, were two hard-compacted mud surfaces associated with the building walls: F6 (not shown on Fig. 18 plan), and below it F11, which was also plastered. These appear to be outdoor surfaces for a courtyard serving the side of the chapel. Both surfaces were cut by a later feature, L15, which is rectangular in shape ( $2 \times 1.5$  m in size); a flat stone raised at the northwestern end of this feature suggests that this is a burial (it remains unexcavated). A very fine bronze earring (Fig. 19d), associated with the as yet unexcavated burial, was recovered in the fill above L15.



Fig. 21. Photo of the chapel discovered in Trenches SMW 4 and SMW 6.



Fig. 20. Reconstruction of chapel interior showing features F5 and F10 (drawing by Umut Kambak).

This possible chapel (Fig. 21) was likely built during the mid-11<sup>th</sup> century when there was an external threat to the settlement's occupants. Prior to this there must have been a substantial Byzantine religious structure situated in close proximity to the Byzantine citadel but outside of the defensive walls. During this period of threat it may have been risky to leave the citadel to reach the religious structure outside the walls, and the community may have been forced to create a summit-based religious space in a hurry. This would explain the ephemeral character of the chapel and its somewhat awkward apse: pre-existing walls were repurposed to become a chapel for some period of time.

### *The (Blocked) Phase 1 Gate on the Southern Summit (Trench USS 1)*

The trenches on the southern end of the summit, USS 1-2, were excavated in 2017 and 2018 and constitute another area of “problem-solving.” In 2016 we opened Trench USS 2 in order to continue tracing the Byzantine 10<sup>th</sup>-11<sup>th</sup> century fortification wall around the mound, and to further investigate the interior “ring rooms” we had documented in other trenches else-

where. Indeed the ring rooms were discovered and excavated (Steadman *et al.* 2017); one room yielded evidence of the soldier/guard and associated belongings noted in the “Phasing” section above. Trench USS 1, directly west of USS 2 (Fig. 1), was opened to further trace the wall and ring rooms. What we instead discovered was an extensive amount of mudbrick collapse that appeared to have been either pushed or fallen from architecture north of the fortification wall. We proceeded to remove the mudbrick collapse in 2017 and were quite surprised to find an entirely new style of architecture and an absence of the 10<sup>th</sup>-11<sup>th</sup> century fortification wall.

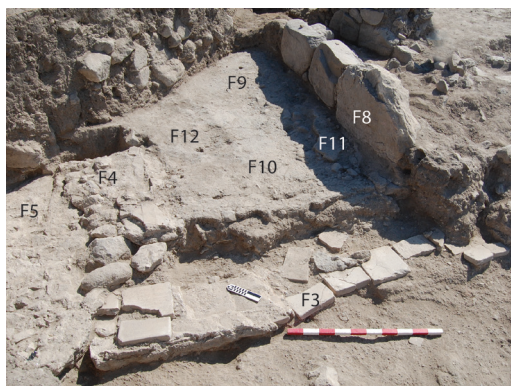


Fig. 22. Photo of gateway in Trench USS 1 as of 2017 excavations.

and on the western side (F5-6; Fig. 22 [F6 not shown in Fig. 22 photo]). The stone architecture on the eastern side (F8, 11) likely dates to a later building phase, but the western stone features (F5-6) are consistent with the original construction of this earlier gateway. These do not appear to be walls but rather semicircular platforms; it is possible that a pillar or other upright architecture once stood here next to the entryway. A Late Roman brick resting at the southwestern corner of the entryway bore a cross (Fig. 23a). Also discovered in the matrix associated with the entryway was a St. Peter's cross (Fig. 23b), the second one so far discovered at the site. There were several postholes in this pathway (F9 and F12 in USS 1, F16 and 17 in adjacent SMT 16). In addition, a number of metal items such as a hinge, a nail, and burned wood were discovered in Trench SMT 16 just to the north. It is quite possible that a gate once rested just at the apex of the pathway.

We returned to USS 1 in 2018, expanding excavations approximately 1 m to the west and exploring more of the southern area of the trench. In addition, in order to more thoroughly understand this newly discovered

Beneath the mudbrick collapse is what appears to be an older gate into the Byzantine summit occupation. The 3 m wide opening, which consists of a very hard plastered surface (F10; Fig. 22), creates an opening in the 10<sup>th</sup>-11<sup>th</sup> century fortification wall. This gate, though only ca. 30 m west of what was likely the main 10<sup>th</sup>-11<sup>th</sup> century gate, was likely also used until it was blocked, perhaps at the beginning of the Phase 6 (attack/abandonment). This well constructed “side entrance,” which may have been the main entrance in the 7<sup>th</sup>-8<sup>th</sup> centuries (Phase 1-2), is accessed from the south by a series of tiles which form a step (F3; Fig. 22). It is flanked by stone features on the eastern side (F8, 11)

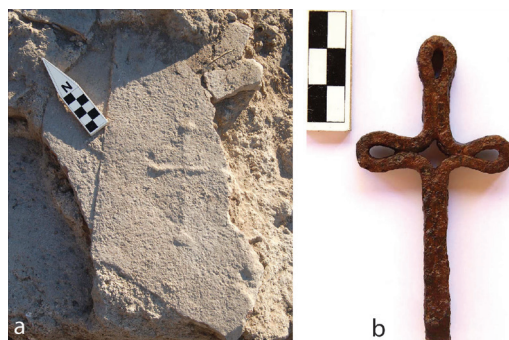


Fig. 23. a: photo of tile with cross found on southwestern end of gate arm; b: photo of St. Peter's cross found in fill above F10 (gateway street).

entryway, we opened SMT 16 (to a 5×5 m extent) to trace what happens when one proceeds up the entry into the summit. Careful USS 1 excavations allowed us to better understand the construction of this entry. Builders laid the F10 plaster atop a packing of plaster/egg-sized rocks, which in turn sealed a fill of very hard-packed mud (almost cement-like), which likely rests on earlier (possibly Iron Age) architecture. Upon this they laid a thick

plaster surface approximately 2 cm thick. The plaster was repeated above a thin fill, renewing the surface of the entryway (F10). The tiles at the southern entrance, creating a threshold (F3), were discovered to partially rest on an earlier stone-built wall or platform (F19; Fig. 24a-b) which may be Roman or Late Roman in date, although this remains uncertain. This F19 stone step, platform, or wall, may lead to an even earlier entrance to the summit either in this location or elsewhere. Near the end of the 2018 season it became clear that the builders of the F19 stone wall/path/platform had used earlier architecture for support. Mudbrick walls lie at the southern extent of the USS 1 trench, not excavated, and are most likely Late Iron Age in date. This construction method, using Iron Age architecture to support Late Antique/Byzantine architecture is found in nearly every summit trench. Our 2018 excavations also confirmed that the 10<sup>th</sup>-11<sup>th</sup> century fortification wall leads up to this earlier entrance, likely encompassing any early wall that adjoined it, but the later fortification wall did not block the entrance. This confirms that this entrance was used for centuries until its final blockage.

The blocking of the USS 1 entrance was more clearly understood once we opened SMT 16. Almost immediately we came down on mudbrick, some of it heavily burned; whole

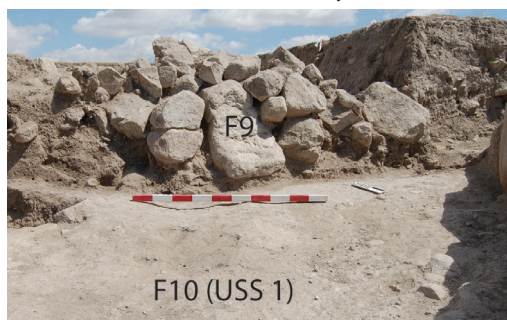


Fig. 25. Photo of Trench SMT 16 blockage (F9) of the street/gateway.

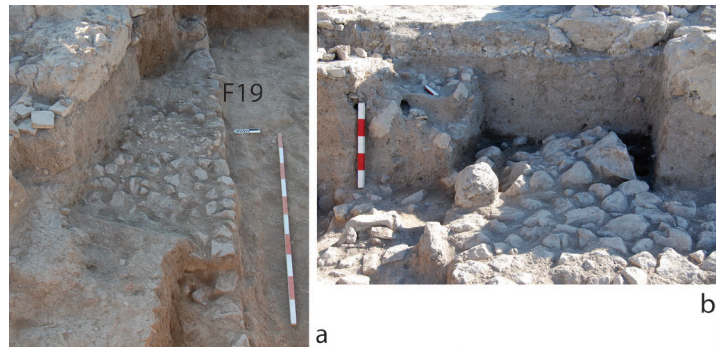


Fig. 24. a: photo of Roman period stone construction (F19) that underlays the gate/street (F10); b: photo showing construction of street (F10 at top) which lies atop a layer of plaster/small stones that then seals hard-packed mud fill above the Roman stone construction shown in Fig. 27a.

burned posts were resting within the mudbrick debris which was likely a continuation of the mudbrick collapse excavated in USS 1 in 2016. Underneath this mudbrick collapse were two structures, one a building and the other a constructed blockage across the entryway (F9; Fig. 25) consisting of chest and head-sized stones and mortar. On the north side of F9 mudbrick and more stones were placed to fortify the blockage. This F9 blockage stretched across the pathway and was clearly meant to seal off entry onto the sum-



mit from this access; it was also probably used to fortify and block the wooden gate mentioned above. Lying directly atop the F9 blockage was burned mudbrick, including the metal artifacts and burned wood noted above; this mudbrick may have come from the nearby building. At present we do not know the date of this building, but it was likely built either in Phase 2, or in one of the later phases of occupation on the mound. We are also uncertain as to whether the mudbrick blocking the entrance, some of which was heavily burned, was intentionally knocked down by Byzantine residents to completely block this entrance, or if this circumstance came about as a result of attack at the time of abandonment (Phase 6). It may well be a combination of both. The work in these two trenches has added significantly to our understanding of building phases and usage of summit space over the course of the first and early second millennia.

Overall the past two years of excavation of the Byzantine remains on the top of the mound have created new avenues for exploration and new questions. The stratigraphic levels suggest a complex utilization of the mound over the period stretching from the late 9<sup>th</sup> century to the mid-11<sup>th</sup> century (and beyond). Further analysis of the ceramics and the wood will help us to isolate these dates further, and perhaps create a more coherent narrative of the changes and events that took place during these centuries.

#### THE ARCHAEOZOOLOGICAL ANALYSES (BENJAMIN ARBUCKLE, KATIE TARDIO, SARAH ADCOCK)

Archaeofaunal work during the 2017 and 2018 field seasons focused on recording data from the Byzantine trenches as well as data analysis from Bronze Age and early Iron Age loci in Trench USS 4 (see Steadman *et al.* 2017, 2019b for reports on USS 4 excavations), and analysis of equid remains from the site.

#### Byzantine Fauna

Analysis of the Byzantine faunal materials from both the North Terrace and the summit contexts continued through the 2017 and 2018 excavation seasons. To date over 5500 specimens from this chronological period have been recorded, with almost 2500 specimens coming from the North Terrace (Table 2). Taxonomic abundance data from the North Terrace trenches demonstrate that the Byzantine animal economy of this area was mixed, with sheep and goats the most abundant taxa (45% based on livestock specimens identified to genus), followed by approximately equal numbers of cattle (25%) and pig (23%) and smaller numbers of equid (including horse and donkey) (3%) and domestic fowl remains (3%). Dog, camel, and cat are present in small numbers as are wild taxa including deer, fox, hare, hedgehog, and rodents. This assemblage differs considerably from Byzantine faunal assemblages from the southern Levant, where caprines are dominant and pigs poorly represented, and from Byzantine remains from Sagalassos in southwestern Turkey, where cattle dominate the assemblage (Perry-Gal *et al.* 2015; Vionis *et al.* 2010). These new data from Çadır's North Terrace define a distinctive rural central Anatolian Byzantine animal economy which will continue to be explored in greater detail.

The Byzantine faunal assemblage from the summit contexts tells a unique story. As described previously, the assemblage is dominated by cattle remains (60%), many of which represent a discrete *in situ* deposit indicating the kill-off of a large number of animals in contexts associated with the abandonment of the Byzantine settlement in the eleventh century CE (Steadman *et al.* 2017) (Table 2). In the summit trenches sheep/goat and pig are represented

Taxon/Period	MBA	LBA	Early Iron	Byz North Terrace	Byz Summit	Byz West Summit	Total
unidentified	145	1519	874	50	0	0	2588
very small mammal	0	8	3	12	3	0	26
small mammal	2	43	10	45	3	4	107
medium mammal	97	1334	602	535	96	63	2727
large mammal	65	863	232	317	239	64	1780
medium artiodactyl		15	9	38	14	24	24
large artiodactyl	3	69	17	7	58	19	173
sheep/goat	20	279	209	491	368	127	1494
sheep	1	38	13	62	65	32	211
goat	4	23	11	48	47	13	146
bovid/cervid	2	59	34	6	3	0	104
<i>Bos</i> sp.	21	280	74	335	1121	174	2005
cervid	0	2	1	2	2	0	7
<i>Sus scrofa</i>	9	165	17	314	214	64	783
<i>Equus asinus</i>	0	6	5	11	1	0	23
<i>Equus caballus</i>	0	1	1	2	5	0	9
<i>Equus</i> sp.	0	4	0	28	11	3	46
<i>Camelus</i>	0	0	0	1	0	0	1
small carnivore	0	0	0	0	2	0	2
medium carnivore	0	3	0	0	0	0	3
<i>Felis</i> sp.	0	0	0	6	1	0	7
<i>Meles meles</i>	0	1	0	0	0	0	1
small mustelid	0	0	0	2	0	1	2
<i>Mustela nivalis</i>	0	0	1	0	0	0	1
<i>Canis</i> sp.	1	44	4	16	7	0	72
<i>Vulpes</i> sp.	0	7	1	88	7	1	104
Erinaceid	0	0	0	2	1	0	3
<i>Rodentia</i>	1	19	11	3	9	4	47
<i>Rattus</i>	0	0	0	1	0	0	1
<i>Sciurus</i> sp.	0	0	0	3	3	0	6
<i>Spalax</i> sp.	0	1	0	0	0	0	1
<i>Lepus capensis</i>	1	7	2	19	10	8	47
<i>Testudo</i>	0	4	1	1	4	9	19
<i>Osteoichthys</i>	0	0	0	2	0	5	7
<i>Aves</i>	2	11	4	41	29	37	124
<b>Total</b>	<b>374</b>	<b>4805</b>	<b>2136</b>	<b>2488</b>	<b>2323</b>	<b>652</b>	<b>7315</b>

Table 2. Numbers of identified specimens identified to taxonomic and size categories from Middle Bronze Age (MBA), Late Bronze Age (LBA), Early Iron age, and Byzantine (Byz) contexts.



in modest numbers (26% and 12%) with equids (0.9%), and fowl (1.6%) also represented in lower frequencies than on the North Terrace. Trenches SMT 14 and 15 contained the bulk of the remains of this death assemblage and provide a unique window into the livestock economy and animal management at the settlement.

Deposits from the west side of the summit (Trenches SMW 1 and 2) provide insight into daily activities near the fortification wall. Species frequencies from these trenches are intermediate between those of the summit and North Terrace with sheep/goat and cattle represented in equal numbers (ca. 40%), followed by pigs (14%), fowl (8%), and only a few equids (<1%). Pit features within these two trenches are filled with the remains of discrete eating events, in which small amounts of butchered and burned material were buried. In addition, and as mentioned earlier, human bones were found throughout the material in this area, often intermingled with the faunal remains. This will be the focus of continued study in order to understand their depositional history.

### Bronze and Early Iron Age Fauna

As of the 2017 and 2018 seasons, analysis of the Middle Bronze, Late Bronze (Hittite), and Early Iron faunal materials remains ongoing. To date, over 7300 specimens from these chronological periods have been recorded (Table 2). An in-depth analysis examining change across time within the Late Bronze assemblage is forthcoming (Ross *et al.* 2019), and a similar analysis of the Early Iron Age materials from USS 4 is in preparation (see Steadman *et al.* 2019b for 2018 excavations in USS 4). Generally, speaking, species frequencies (based on NISP) for the Middle and Late Bronze Age faunal assemblages are quite similar, suggesting a strong degree of continuity across these periods. Caprines (43%) and cattle (38%) dominate the Bronze Age assemblages and are represented in identical proportions in both the small Middle Bronze and larger Late Bronze Age assemblages. Pigs represent ca. 15% of both Bronze Age assemblages, while equids and birds are represented by small numbers of remains (<3%). The proportions of livestock taxa shift in important ways after the Late Bronze Age collapse as evidenced by the Early Iron Age deposits from Trench USS 4. The relative frequency of caprines increases to nearly 70% during the Early Iron Age, while cattle drop to 23% of the assemblage. Pigs decrease dramatically down to just 4% of the Early Iron Age fauna. These changes in the frequencies of livestock species likely reflect a major restructuring of the animal economy at Çadır in response to the environmental and political realities of the Early Iron Age.

### Equids

The remains of equids (NISP=232) have been recovered from every occupational phase at Çadır and are the subject of a current detailed study of the use of equids in ancient Anatolia. Horses are the most abundant equid at Çadır (NISP=82); they are particularly well represented in the Iron Age and Byzantine where they represent domestic horses (*Equus caballus*) and exhibit evidence for bit wear associated with riding and also butchery (Fig. 26). Horses are, however, present from the earliest levels of the settlement, with several horse specimens identified from loci in the deep sounding in Trench LSS 5, radiocarbon dated to the mid-fifth mil-



Fig. 26. Selected equid teeth from Çadır Höyük. Specimens 4268 and 6683 represent *Equus ferus* (Late Chalcolithic); 2356 and 3231 (occlusal view and mesial view with arrows indicating bit wear) are *E. caballus* (Iron Age); 5041 is an *E. caballus* (Byzantine). Specimens 1325 (chronology unknown) and 4890 (LBA) are donkeys; 5198 is possibly a mule (Iron Age); 625 is a cf. *E. hemionus hydruntinus* (Iron Age).

lennium BCE (AA84957) and also from loci in Trenches SES 1, LSS 3-4, and LSS 10 firmly dated to the latter half of the fourth millennium BCE. In addition, specimen CD1875 was directly dated to 3300 cal BC (BETA 418461). These Chalcolithic horses likely represent local Anatolian wild horses (*Equus ferus*) and are similar to the wild horses from Neolithic and Chalcolithic sites in central and western Anatolia including Çatalhöyük, Köşk Höyük, Orman Fidanlığı, and Kez Kaya (Martin and Russell 2006; Uerpman 2001). Given evidence for early horse management north of the Black Sea in the fourth millennium BCE, it is unclear if the Chalcolithic horses at Çadır represent early managed animals or if they represent a continuation of a tradition of horse hunting on the Anatolian plateau. This question is currently the subject of paleogenetic analysis.

In addition to horses, the remains of small-bodied equids have also been identified at Çadır (NISP=61). The majority of these specimens have been identified as domestic donkeys (*Equus asinus*). Although one donkey specimen was recovered from a Late Chalcolithic trench, it is from a disturbed locus (LSS 10, L6) and likely derives from overlying Hittite deposits, where donkey remains are relatively common. Donkeys are most abundant in the North Terrace Byzantine deposits. In addition, one tooth specimen (CD5198) from the Iron Age combines features of both horses and donkeys and likely represents a mule, indicating that equid hybrids were bred and used in the early first millennium BCE.

In addition to donkeys, wild Anatolian hemiones (*Equus hemionus hydruntinus*) may also be present among the small equid remains at Çadır. Like wild horses, these wild 'hydruntines' were heavily hunted in Neolithic and Chalcolithic central Anatolia but disappear sometime in the later Holocene (Crees and Turvey 2014). The latest identifications of hydruntines in Anatolia come from Early and Middle Bronze Age deposits from Acemhöyük and Demircihöyük (Arbuckle 2013; Rauh 1981) in central and western Anatolia. Although the remains of donkeys and hemiones are difficult to distinguish, one specimen at Çadır (CD625), displays the distinctive mandibular molar morphology of a hydruntine (Fig. 26). This specimen is from an Iron Age locus (Trench LSS 3, L12), and, if the identification is confirmed through ancient DNA, represents the latest identification of this species in Turkey. Even more intriguing, this tooth specimen exhibits abnormal "wavy" wear on the occlusal surface, a feature more often seen in managed and confined animals rather than in wild animals. Although speculative, if wild hemione were under human management, they may have been used to breed donkey x hemione hybrids – a high status animal known in Bronze Age Mesopotamian texts as a *kunga* (Zarins 2014).

## THE ARCHAEOBOTANICAL ANALYSES (MADELYNN VON BAEYER)

The archaeobotanical research program is focused on highlighting how the Çadır population adapted their plant use practices in response to environmental and cultural shifts throughout the entire sequence. Many plant use behaviors, such as agricultural practices, animal management, and fuel use, are often performed at a household level but can be controlled by a larger centralized or state level power. Therefore, changes in plant use affect both household and site level organization and contribute to the resilience, or demise, of a population at a site. To observe changes in plant use, archaeobotanical analysis employs counts, descriptive statistics like relative abundance, ubiquity, ratios between taxa, and correspondence analysis. By comparing these statistics between phases, periods, and buildings, it is possible to document changes in plant use over time or between spaces.

FCN	Trench	Location	Locus/Feature	Context
10119	USS 3	Mound	L10	Trash Pit
10405	USS 3	Mound	L13	Construction Debris
16780	NTN 8	Terrace	L36	Basin
17834	SMT 3	Mound	L26	Intentional Fill
19039	SMT 9	Mound	L12	Surface
19555	SMW 1	Mound	L9	Pit Fill
19861	SMW 1	Mound	L9	Pit Fill
20981	SMT 14	Mound	L30	Pit Fill
21433	SMW 6	Mound	L12	Surface
21442	SMW 6	Mound	L13	Post Soil
21657	SMT 9	Mound	L27	Basin

Table 3. Trench, locus/feature, and context of samples used in pilot archaeobotanical study.

During the 2018 season, the focus of the archaeobotanical research was a pilot study of 11 Byzantine samples, chosen to determine general patterns in Byzantine plant use. The samples were excavated between 2012 and 2017 and come from seven different trenches, six from the summit and one from the North Terrace, from 10 different contexts (Table 3). All the samples were collected as part of an in-

tensive sampling strategy that focused on all securely defined contexts, with a slight preference for surfaces, pits, and hearths. When possible, 20 L were collected from the field and floated using a modified Siraf style machine (Nesbitt and Samuel 1989). The preliminary study identified both seeds and wood charcoal. Seed statistics are recorded by counts while wood charcoal statistics are recorded by weight due to increased friability that makes fragmentation more likely for wood charcoal. While the mixed count and weight recording makes it difficult to directly compare seed raw counts and wood weights, proportional measures between counts and weights can be compared due to the positive relationship between wood charcoal counts and weights (Chabal 1988).

Preliminary identifications indicate that cereal cultivation was an important aspect of plant use during the Byzantine period (Table 4). Three different types of cereal were identified that had high relative abundance: free threshing wheat (*Triticum aestivum/durum*), barley (*Hordeum vulgare* L.), and rye (*Secale* sp.); indeterminate cereal grains were found in every sample. Furthermore, the amount of chaff, as well as the ubiquity of chaff, supports the argument that cereal was an important crop at the site. Both bread wheat rachises (*Triticum aestivum* L.) and

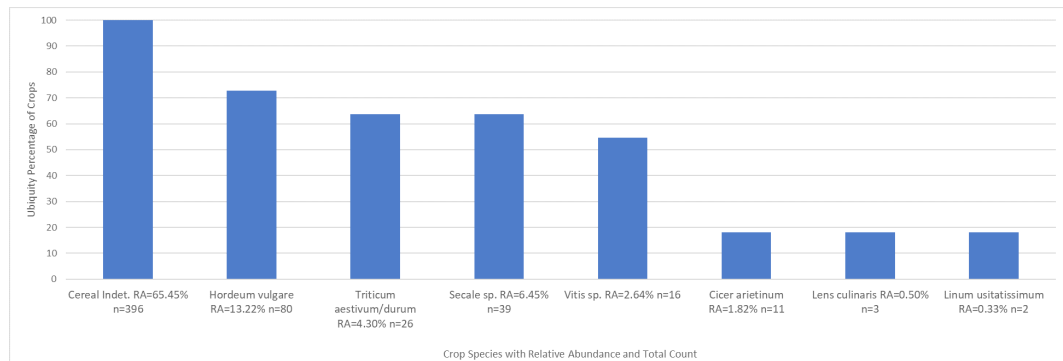


Table 4. The ubiquity of crop species in the pilot study. Relative abundance (RA) and total count (n) are noted as well.

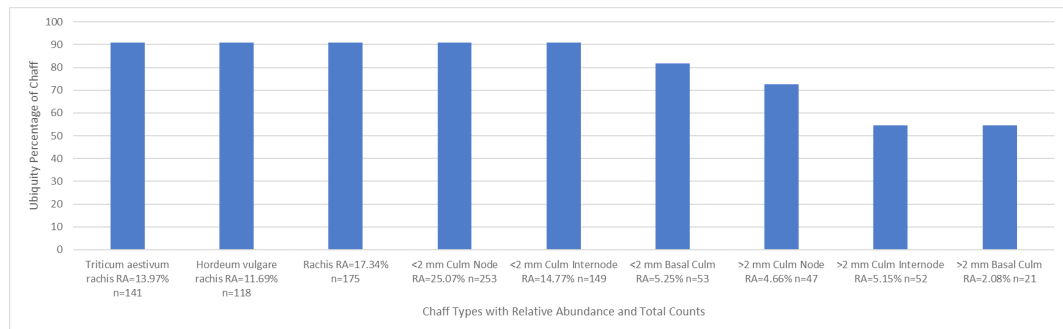


Table 5. The ubiquity of chaff types in the pilot study. Relative abundance (RA) and total count (n) are noted as well.

FCN	Total Weight (g)	> 4 mm Wood (g)	> 2 mm Wood (g)	<i>Pinus</i> sp. (g)	<i>Quercus</i> sp. (g)	<i>cf Ulmaceae</i> sp. (g)	<i>Salix</i> sp. (g)	Textile (g)	Wood weight/ Total Weight (%)
10119	73.68		53.25	0.03		9.31			72.27
10405	36.34		22.44			7.81			61.75
16780	4.4		0.7			0.51			15.91
17834	16.89		4.14						24.51
19039	25.55		6.36	1.58		0.62	0.04		24.89
19555	23.86		7.44	3.02	0.17	0.51		0.07	31.18
19861	102.52	25.48		5.51	2.26	0.94		6.14	24.85
20981	41.27	10.24		2.75	2.75	3.02			24.81
21433	36.48		6.19	22.14	0.93				16.97
21442	36.67		14.67	0.42	1.15	0.19			40.01
21657	20.98		8.8	0.66	0.69	0.52			41.94

Table 6. Wood weights for the samples in the preliminary study.

barley rachises were found in every sample and had very high relative abundance percentages (Table 5). Culm fragments were also very ubiquitous and abundant, suggesting that straw was an important resource at Byzantine Çadır; future studies of the assemblage will aim to clarify what the straw was used for, i.e. in crop processing or as fuel.

Other non-cereal economic species were identified as well: grapes (*Vitis* sp. L.), chick peas (*Cicer arietinum* L.), lentils (*Lens culinaris* Medik.), and flax (*Linum usitatissimum* L.). In general, these species preserve less well than cereals due to high starch, sugar, and oil contents of the seeds. At Çadır, grapes were moderately abundant and ubiquitous, while the chick peas, lentils, and flax all had very little ubiquity, and in the case of lentils and flax, very little abundance as well. Legumes, however, are often found with low ubiquity due to how the seeds are processed on site (Graham and Smith 2013), although in comparison to other periods, the ubiquity and abundance of the legumes is rather low (Steadman *et al.* 2019a).

While very few flax seeds were found in the assemblage, it is possible that flax fibers were used to create a textile found in SMW 1 that was wrapped around metal objects from a wooden box (Steadman *et al.* 2017). A large amount of charred textile was recovered in the light fraction from L9 in SMW 1 (Table 6; Fig. 27) and while the textile has not yet been formally analyzed, the way the textile bubbled when burnt is reminiscent of the way flax seeds burn.

The wood charcoal remains indicate that wood charcoal was a fairly important resource for Byzantine Çadır. Three types of wood: pine (*Pinus* sp.), oak (*Quercus* sp.), and possible elm type (cf *Ulmaceae* sp.) dominated the samples. Trench USS 3 (see Steadman *et al.* 2013) had the largest percentage of wood charcoal in sample compositions. It is still unknown whether or not the wood charcoal assemblage represents fuel or construction materials or construction materials repurposed into fuel. This too will be the focus of future research.

The preliminary results in this pilot study show similar cereal patterns to the Byzantine remains from the Çadır Höyük terrace that were analyzed and published by Alexia Smith (2007). On the terrace, the Byzantine archaeobotanical remains had high numbers of free threshing wheat grains, barley, and straw (Smith 2007). A similar archaeobotanical profile is found in the Byzantine assemblage of Komana located north of Çadır in the Tokat province (Pişkin and Tatbul 2015). Wheat, barley, and grapes were the three most abundant economic crops at that site, along with smaller concentrations of rye, lentils, chick peas, and flax (Pişkin and Tatbul 2015). Despite the abundance of wheat at Komana, unlike the findings at Çadır, there was a relatively low amount of straw in the assemblage; this highlights the importance of future research focusing on the role of straw at Çadır.

Overall, the pilot study of Byzantine archaeobotanical samples during the 2018 season illustrated that the Çadır Byzantine assemblage is fairly robust, diverse, and follows general patterns seen in other Byzantine assemblages in Anatolia. Future research on the assemblage will focus on three areas: 1) the ecology and distribution of the weeds (not reported here) and wood



Fig. 27. Sample of the charred textile from L9 in Trench SMW 1, mm scale at bottom.



charcoal found across the site to determine patterns of fuel use and ecological exploitation; 2) whether or not there is evidence for on-site crop processing during the Byzantine; and 3) the textile found in SMW 1. Results from the preliminary archaeobotanical study suggest that there are complex environmental and cultural factors that have shaped this assemblage, and the preservation of the assemblage is good enough to untangle what these were.

#### THE LITHICS ANALYSES (BENGI SELVI)

All stone artifacts excavated from 2016 to 2018 were analyzed ( $n=375$ ), 32 of which were unworked. The raw material preference was primarily chert or obsidian. Chert is the most common raw material with 45% in the total assemblage, followed by obsidian with 40%. Chalcedony, a common local raw material, constitutes only 11% of the total finds, which is probably the result of the non-elastic nature of the stone. Only a few ground stone items (basalt and pumice) were found in the 2016-2018 excavations (this does not include large items such as querns or grinding stones). Obsidian was brought to the site, likely derived from the closest known quarries such as Erciyes, Acıgöl or Göllüdağ, approximately 150 km away.

The lithics in the 2016-2018 assemblages (Table 7) included a total of 80 formal tool types (after deducting flakes with no retouch or use wear, cores, and chips), with 67% retouched. There were a limited number of cores in the assemblage, suggesting that knapping activity was not regularly carried out on the site; instead there might have been an area off-site dedicated to chert and chalcedony knapping. Blades (including broken blades) are the most common tool type (70% of the assemblage), followed by scrapers and retouched flakes, each of which comprise 15% percent of the assemblage.

A significant number of the blades (42%) were knapped from chalcedony which is an abundant raw material in the region, and another 28% consisted of chert. A majority (55%) of the blades were not retouched; however six blades had denticulate retouching on either one or both laterals (Fig. 28a). The blades found at Çadır are indicative of a formal tool typology suggesting the presence of skilled flintknappers (of chalcedony and chert) (Fig. 28b). Given that over 70% of the blades were knapped out of the local raw material, further surveys in the region may identify the sources exploited. In addition to blades, less formal and more expedient tools such as retouched flakes and scrapers were recovered. Chert was the most common raw material for retouched flakes, and all scrapers were knapped from flint (Fig. 28c).

Artefact types	Raw material				Total
	<i>Basalt</i>	<i>Chalcedony</i>	<i>Chert</i>	<i>Obsidian</i>	
Cores and core fragments		1	15	13	29
Complete flakes	1	8	52	31	92
Retouched flakes		2	7	3	12
Blades and blade fragments		24	18	14	56
Scrapers and scraper fragments			12		12
Angular fragments		8	55	72	135

Table 7. Artifact types based on raw material preferences.

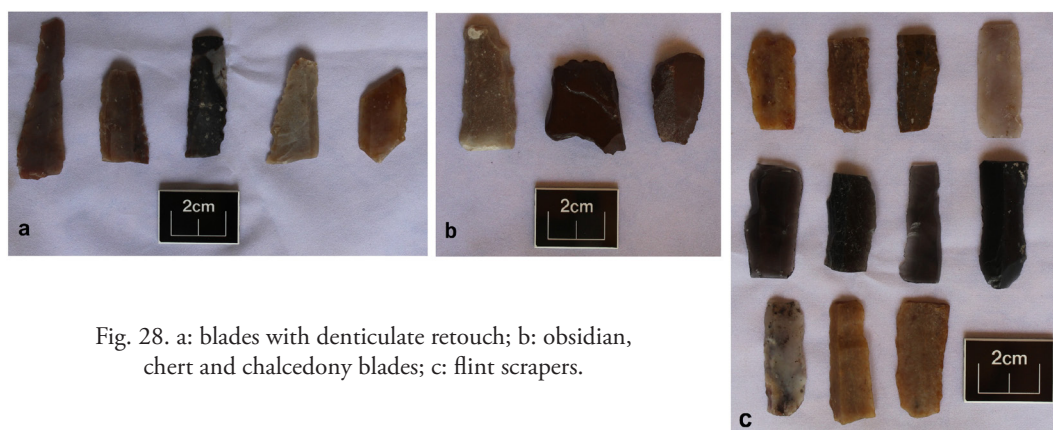


Fig. 28. a: blades with denticulate retouch; b: obsidian, chert and chalcedony blades; c: flint scrapers.

Over 90% of the lithics studied came from the Late Chalcolithic and Early Bronze Age levels (primarily Trenches LSS 4-5 and SES 1). Only five individual items were recovered from the second millennium (including Iron Age) levels, which is not surprising due to the much smaller exposures dating to these periods. Interestingly, the largest cache of lithics was recovered from L133 in Trench LSS 5. From this context a total of 60 pieces were found, including six blades, a scraper, and two unidentified retouched obsidian tool pieces. This is the “foundation” context below the toppled Agglutinated Phase wall, which also contained an infant burial, cattle horns, and pottery; these items, including the lithics noted here, have been interpreted as a foundation deposit in association with the intentional destruction of the wall.

Although wild animals represent a small percentage of the total taxa, the Chalcolithic and Early Bronze Age levels reveal the presence of some species (see Table 2 above and Steadman *et al.* 2017: 243, Table 3). However, surprisingly there are no arrow or spear heads in the lithics assemblage. This lack may be simply due to the vagaries of archaeological recovery; other explanations may be that only certain (as yet unexcavated) households hunted, or that hunting materials were kept elsewhere than the domestic area. It is worthwhile to note, however, that no evidence of hunting was found in the tool kit from the previous three seasons of work. Preliminary analyses of the lithic assemblages show a dominance of blades in the tool kit, along with some scrapers and expedient tools; more than half of these were knapped from local raw material. The exploitation of raw material strategies requires more research to interpret the preference of obsidian, through trade, versus the use of local raw materials by Çadır knappers.

## CONCLUSION

The 2017-2018 seasons constituted the largest fielded teams in the history of Çadır excavations. The work accomplished allowed us not only to solve our “problems” but also provided new directions for study. When excavations recommence in 2020, we plan to return to the areas reported on here, with expanded investigation of second and first millennium BCE occupation of the site. It is clear that the Çadır settlement has much to offer regarding life at a rural settlement over its 6000 years of occupation.

## REFERENCES CITED

- Arbuckle, B.S., 2013 — Zooarchaeology at Acemhöyük. *Anadolu/Anatolia* 39: 55-68.
- Cassis, M., 2011 — Invisible Archaeology: Byzantium and the Rural Remains of an Empire. *Canadio-Byzantina* 22: 28-34.
- Cassis, M., 2009 — Çadır Höyük: A Rural Settlement in Byzantine Anatolia. In: T. Vorderstrasse and J. Roodenberg (eds.), *Archaeology of the Countryside in Medieval Anatolia*. Leiden: NINO, 1-24.
- Cassis, M., and S.R. Steadman, 2014 — Continuity and Change on the Anatolian Plateau. In: S. Stull (ed.), *From West to East: Current Approaches to Medieval Archaeology*. Newcastle upon Tyne: Cambridge Scholars Publishing, 140-154.
- Chabal, L., 1988 — L'étude paléo-écologique de sites protohistoriques à partir des charbons de bois : la question de l'unité de mesure. Dénombrement de fragments ou pesées? In: T. Hackens, A.V. Munaut, C. Till (eds.), *Wood and Archaeology. Bois et archéologie*. First European Conference, Louvain-la-Neuve, October 2<sup>nd</sup>-3<sup>rd</sup> 1987. Strasbourg: Conseil de l'Europe, 189-205.
- Crees, J.J., and S.T. Turvey, 2014 — Holocene Extinction Dynamics of *Equus Hydruntinus*, A Late-Surviving European Megafaunal Mammal. *Quaternary Science Reviews* 91: 16-29.
- Graham, P.J., and A. Smith, 2013 — A day in the Life of an Ubaid Household: Archaeobotanical Investigations at Kenan Tepe, South-eastern Turkey. *Antiquity* 87: 405-417.
- Hackley, L.D., S. Selover, and S.R. Steadman, 2018 — The Persistence of Social and Spatial Memory at Prehistoric Çadır Höyük. *International Journal of the Constructed Environment* 9.4: 1-20.
- Martin, L., and N. Russell, 2006 — The Equid Remains from Neolithic Çatalhöyük, Central Anatolia: A Preliminary Report. In: S.J. Olsen (ed.), *Horses and Humans: The Evolution of Human-Equine Relationships*. British Archaeological Reports International Series 1560, Oxford, 115-126.
- McMahon, G., T.E. Şerifoğlu, and S.R. Steadman, 2019 — Çadır Höyük'te 2017 Kazı Sezonu. *Kazı Sonuçları Toplantısı* 40: forthcoming.
- McMahon, G., T.E. Şerifoğlu, and S.R. Steadman, 2018 — Orta Anadolu Platosu'ndaki Çadır Höyük'te 2016 Kazı Sezonu Sonuçları. *Kazı Sonuçları Toplantısı* 39.3: 119-131.
- Nesbitt, M., and D. Samuel, 1989 — The Recovery of Ancient Botanical Remains from Near Eastern Excavations: A Practical Guide. Ankara: British Institute of Archaeology.
- Perry-Gal, L., G. Bar-Oz, and A. Erlich, 2015 — Livestock Animal Trends in Idumaeen Maresha: Preliminary Analysis of Cultural and Economic Aspects. *Aram* 27: 213-226.
- Pişkin, E., and M.N. Tatbul, 2015 — Archaeobotany at Komana: Byzantine Plant Use at a Rural Cornucopia. In: B. Erciyas and M.N. Tatbul (eds.), *Komana'da Ortacağ Yerleşimi. The Medieval Settlement at Komana*. Istanbul: Ege Yayınları, 139-166.
- Rauh, H., 1981 — Knochenfunde von Säugetieren aus dem Demircihöyük (Nordwestanatolien). Ph.D. Dissertation, University of Munich, Munich.
- Redford, S., 2012 — A Twelfth Century Iron Workshop at Kinet, Turkey. *Byzas* 15: 385-392.
- Ross, J.C., S.R. Steadman, G. McMahon, S. Adcock, and J. Cannon, 2019 — When the Giant Falls: Endurance and Adaptation at Çadır Höyük in the Context of the Hittite Empire and its Collapse. *Journal of Field Archaeology* 44: forthcoming.
- Russell, N., K.I. Wright, T. Carter, S. Ketchum, P. Ryan, N. Yalman, R. Regan, M. Stevanović, and M. Milić, 2014 — Bringing Down the House: House Closing Deposits at Çatalhöyük. In: I. Hodder (ed.), *Bringing Down the House: House Closing Deposits at Çatalhöyük*, vol. 32. Los Angeles, Cotsen Institute of Archaeology, University of California, 109-21.
- Şerifoğlu, T.E., G. McMahon, and S.R. Steadman, 2016 — Kuzey Orta Anadolu'daki Çadır Höyük'te 2015 Kazı Sezonu Sonuçları. *Kazı Sonuçları Toplantısı* 38: 1-16.
- Smith, A., 2007 — Plant use at Çadır Höyük, Central Anatolia. *Anatolica* 33: 169-84.
- Steadman, S.R., B.S. Arbuckle, and G. McMahon, 2018 — Pivoting East: Çadır Höyük, Transcaucasia, and Complex Connectivity in

- the Late Chalcolithic. *Documenta Praehistorica* 45: 64-84.
- Steadman, S.R. and L.D. Hackley, 2017 — Tarih Öncesi ana Çağlarda Dolu: Yerleşme Düzeni ve Toplumsal Yapılanma. *Aktüel Arkeoloji* 55 (August 2017): 52-63.
- Steadman, S.R., and G. McMahon, 2015 — Recent Work (2013-2014) at Çadır Höyük on the North Central Anatolian Plateau. In: S.R. Steadman and G. McMahon (eds.), *The Archaeology of Anatolia: Recent Discoveries (2011-2014)*, Vol. 1. Newcastle upon Tyne: Cambridge Scholars Publishing, 69-97.
- Steadman, S.R., and G. McMahon, 2017 — The 2015-2016 Seasons at Çadır Höyük on the North Central Plateau. In: S.R. Steadman and G. McMahon (eds.), *The Archaeology of Anatolia: Recent Discoveries (2015-2016)*, Vol. II. Newcastle upon Tyne: Cambridge Scholars Publishing, 94-116.
- Steadman, S.R., G. McMahon, B.S. Arbuckle, M. von Baeyer, A. Smith, B. Yıldırım, L.D. Hackley, S. Selover, and S. Spagni, 2019a — Stability and Change at Çadır Höyük in Central Anatolia: A Case of Globalization? *Anatolian Studies* 69: forthcoming.
- Steadman, S.R., G. McMahon, and J.C. Ross, 2019b — Chalcolithic, Hittite/Iron Age, and Byzantine Investigations at Çadır Höyük: The 2017-2018 Seasons. In: S.R. Steadman and G. McMahon (eds.), *The Archaeology of Anatolia: Recent Discoveries (2017-2018)*, Vol. III. Newcastle upon Tyne: Cambridge Scholars Publishing, forthcoming.
- Steadman, S.R., G. McMahon, and J.C. Ross, 2007 — The Late Chalcolithic at Çadır Höyük in central Anatolia. *Journal of Field Archaeology* 32.4: 385-406.
- Steadman, S.R., G. McMahon, J.C. Ross, M. Cassis, J.D. Geyer, B. Arbuckle, and M. von Baeyer, 2013 — The 2009 and 2012 Seasons of Excavation at Çadır Höyük on the Anatolian North Central Plateau. *Anatolica* 39: 113-167.
- Steadman, S.R., G. McMahon, J.C. Ross, M. Cassis, T.E. Şerifoğlu, B.S. Arbuckle, S.E. Adcock, S. Alpaslan Roodenberg, M. von Baeyer, and A.J. Lauricella, 2015 — The 2013 and 2014 Seasons of Excavation at Çadır Höyük on the Anatolian North Central Plateau. *Anatolica* 41: 87-124.
- Steadman, S.R., J.C. Ross, G. McMahon, and R.L. Gorny, 2008 — Excavations on the North Central Plateau: The Chalcolithic and Early Bronze Age at Çadır Höyük. *Anatolian Studies* 58: 47-86.
- Steadman, S.R., T.E. Şerifoğlu, G. McMahon, S. Selover, L.D. Hackley, B. Yıldırım, A.J. Lauricella, B.S. Arbuckle, S.E. Adcock, K. Tardio, E. Dinç, and M. Cassis, 2017 — Recent Discoveries (2015-2016) at Çadır Höyük on the North Central Plateau. *Anatolica* 43: 203-50.
- Uerpmann, H.-P., 2001 — Remarks on Faunal Remains from the Chalcolithic Sites “Orman Fidanlığı” and “KesKaya” Near Eskişehir in North-Western Anatolia. In: T. Efe (ed.), *The Salvage Excavations at Orman Fidanlığı: A Chalcolithic Site in Inland Northwestern Anatolia*. İstanbul: TASK Vakfı Yayınları, 187-210.
- Vionis, A.K., J. Poblome, B. De Cupere, and M. Waelkens, 2010 — A Middle-Late Byzantine Pottery Assemblage from Sagalassos: Typochronology and Sociocultural Interpretation. *Hesperia* 79: 423-464.
- Yıldırım, B., L.D. Hackley, and S.R. Steadman, 2018 — Sanctifying the House: Child Burial in Prehistoric Anatolia. *Near Eastern Archaeology* 81.3 (September): 164-73.
- Zarins, J. with the assistance of Rick Hauser, 2014 — *The Domestication of Equidae in Third-Millennium BCE Mesopotamia*. Cornell University Studies in Assyriology and Sumerology, vol. 24. CDL Press.

## TUNCELI-ANBAR FORTRESS AND THE URARTIAN MULTI-ROOMED ROCK-CUT TOMB

Harun Danışmaz\*

### *Abstract*

*This study aims to evaluate Anbar Fortress and its multi-roomed rock-cut tomb, located in the Tunceli region. It is a place rarely mentioned in archaeological literature. For the first time the plan of the rock-cut tomb of Anbar is presented here and accordingly the fortress' place in the Urartian administration system is evaluated. In addition, material culture residues from the site, such as wall foundations, mortared walls, rock steps, cisterns/storage spaces and a rock chapel were analysed and their connection to the tomb is explained. Traces of two different periods are detected in Anbar Fortress. While the wall foundations, multi-roomed rock-cut tomb, and a part of the rock steps can be associated with the Urartian period, the mortared walls, towers, rock steps, cisterns/storage spaces and rock chapel that is located in the southwest of the fortress is dated to the Medieval period.*

### INTRODUCTION

The Tunceli region, which was under the sovereignty of the Urartian Kingdom (mid-9<sup>th</sup> to end of 7<sup>th</sup> century BC), is one of the least researched areas of Turkey so far. The region is located in the lower Murat River basin and the basin itself is surrounded by high mountains with the Munzur Mountains to the north, the Southeast Taurus Mountains to the south, and to the east, the Bingöl Mountains. The west part of the basin is bordered by the Euphrates River (Fig. 1). In addition, the Murat River which enters the Elazığ plain from the east separates the Tunceli region from the Elazığ basin in the south.

The region drew the attention of the Urartian kingdom in its early period during the reign of King Minua. The royal inscriptions of King Minua state that he did not just organise military campaigns (CTU A 5-11A, A 5-9), but also carried out construction works in the region (CTU A 5-5). Afterwards, during the reign of King Argišti, Urartu fought against the Melitian kingdom the east of the Euphrates (CTU A 8-3 II). However, during the 8<sup>th</sup> century BC, the Urartian led Arpad alliance (743 BC) against the Assyrian king Tiglath-Pileser III lost the war and hence confined the Urartian kingdom to the east of the Euphrates River basin (Köroğlu 1996: 73-88, Çifçi 2017: 162). In the 7<sup>th</sup> century BC, the kingdom became a more dominant force in the east of the Euphrates region. The royal inscriptions at the Kaleköy/Mazgirt (CTU A 12-6), Ayanis (CTU A 12-1) and Adilcevaz (CTU A 12-4) demonstrate that the kingdom had a strong influence in the region. Alongside this, archaeological remains such as ceramics from the site of Norşuntepe, Genefik and Yıldıztepe indicate that the kingdom extended its sovereignty south of the Murat River. The sites that are located north of the river

---

\* Munzur University.



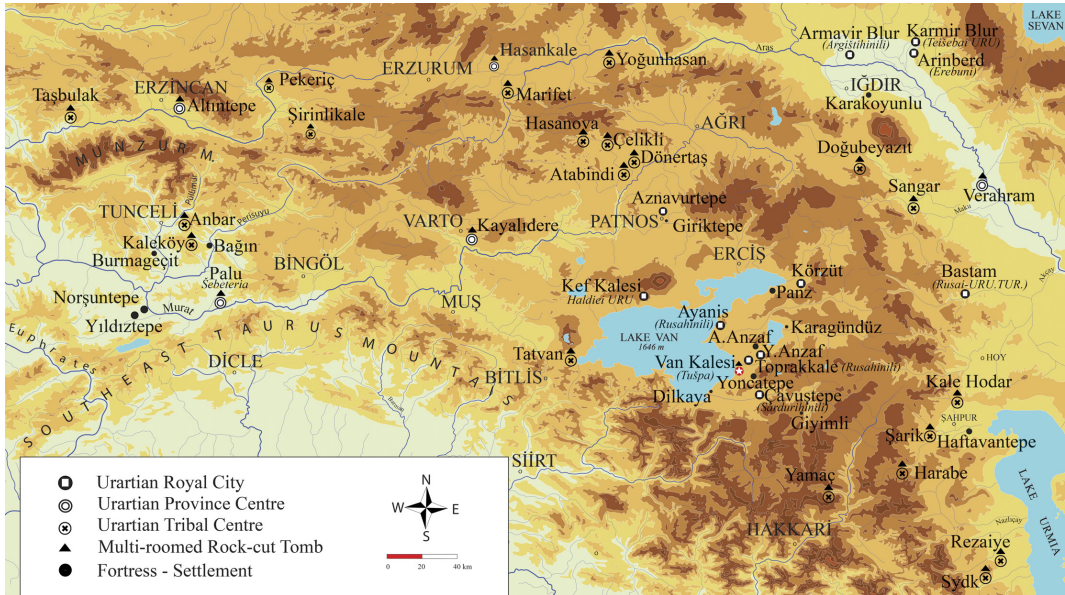


Fig. 1. Map of Urartian territory, showing the location of Urartian settlements.

such as Palu (a provincial centre), Kaleköy/Mazgirt (a tribal centre) and now Anbar Fortress, indicate the importance of the region to the Urartian kingdom (Fig. 1). There is also textual evidence from the region such as Bahçecik (CTU A 9-18) and Bağın (CTU A 5-8) inscriptions that narrated the provincial affairs. Therefore, all the archaeological and textual evidence suggest that the kingdom did not progress west of the Euphrates River but did go over the Murat River to the south.

In archaeological literature sites such as Kaleköy/Mazgirt, Burmageçit and Bağın fortresses are associated with the Urartian kingdom (Dan 2012: 63-66). Due to its multi-roomed rock-cut tomb and the Urartian royal inscription at its entrance, Kaleköy/Mazgirt has been known since the 19<sup>th</sup> century (Wünsch, Müller 1886: 5; Lehmann-Haupt 1910: 468-473; Kleiss, Hauptmann 1976: 17). Bağın Fortress, located approximately 20 km east of Kaleköy, is known for its Urartian cuneiform stele (Burney 1957: 52; Sevin 2005: 383). But it should also be noted that a part of this stele was used as a spolia in a medieval wall (Schäfer 1973-74). Although in archaeological literature the site is usually dated to the Urartian period (Burney 1957: 52), the rock-cut stepped tunnels, single-roomed rock-cut tombs and its mortared walls indicate a later date, possibly to the Hellenistic or Roman period (Köroğlu-Danişmaz 2018: 108-110). On the other hand, Burmageçit is recognised by the Urartian period findings such as bronze helmets and pieces of belts, which are on display at the Elazığ Archaeological Museum. Although an inscription on one of the helmets that was associated with Burmageçit stated that it is “from Minua’s storehouse” (CTU II B 5-8, Belli 1993: 65), there is no definite information about the real provenance of these artefacts.<sup>1</sup>

<sup>1</sup> According to the museum records, the artefacts were taken from the peasants by gendarmerie in Burmageçit village in 1985. Peasants stated that the artefacts had been found during the new road construction that connect

The only archaeological research in the Tunceli region was conducted by Ertuğrul Danık between 2000 and 2002 (Danık 2002, 2004) and there is also an ongoing survey of the region by Serkan Erdoğan (2017). In his study Danık mentions Anbar Fortress and its rock-cut tombs. He published a topographical map of the fortress but failed to reach the tomb because of the roughness of its location (Danık 2004: 140-142). Therefore, the aims of this research is to evaluate the rock-cut tomb of the fortress and to also investigate Anbar Fortress and its place in the Urartian administration system.<sup>2</sup>

#### MULTI-ROOMED ROCK-CUT TOMBS

Multi-roomed rock-cut tombs were constructed for multiple funerary purposes at the inner parts of the Urartian period citadels and these citadels with such structures usually served as administrative centres. Those tombs can be seen from what was once the Urartian territory, from eastern Anatolia to the western and northern parts of the lake Urmia basin of Iran. Over twenty multi-roomed rock-cut tombs have been documented on Urartian lands (Fig. 1). A new study (Köroğlu 2007, 2008) recently re-analysed the known rock-cut tombs from eastern Anatolia and divided such tombs into two sub-groups according to their plan: multi-roomed and single-roomed tombs (Öğün 1978; Çevik 2000). In this study Köroğlu re-ex-

Tomb	City	Number of rooms	References
Neft Kuyu	Van	5	(Sevin 2012)
Horhor	Van	6	(Sevin 2012)
Doğu Odaları	Van	4	(Sevin 2012)
İçkale	Van	7	(Sevin 2012)
Yamaç I	Van/Başkale	2	(Sevin 2015; 20-23)
Yamaç II	Van/Başkale	?	(Sevin 2015; 20-23)
Tatvan	Bitlis	3	(Özfrat 2002)
Kayalıdere	Muş	6	(Burney 1966)
Yoğunhasan	Kars	3	(Belli, Ceylan 2002)
Doğubayazıt	Ağrı	2	(Çevik 2000)
Atabindi	Ağrı	3	(Başgelen 1987; Başgelen 1995)
Hasanova III	Erzurum	2	(Başgelen 1997)
Çelikli	Erzurum	4	(Başgelen 1998)
Pasinler	Erzurum	2	(Çevik 2000)
Marifet	Erzurum	2	(Başgelen 1992)
Şirinlikale	Erzincan	2	(Işık 1987)
Taşbulak	Erzincan	2	(Topaloğlu 2012)
Pekeriç I	Erzincan	2	(Çevik 2000)
Palu I	Elazığ	4	(Charlesworth 1980; Sevin 1994)
Palu II	Elazığ	4	(Charlesworth 1980; Sevin 1994)
Palu III	Elazığ	2	(Charlesworth 1980; Sevin 1994)
Kaleköy	Tunceli	2	(Öğün 1978)
Anbar	Tunceli	2	(Danık 2004, Danışmaz 2018)
Sangar	Iran	3	(Kleiss 1968)
Kale Hodor I	Iran	2	(Kleiss 1974)
Kale Hodor II	Iran	4	(Kleiss 1974)
Verahram	Iran	3	(Kleiss 1974)
Rezaiye	Iran	2	(Kleiss 1971)
Sydk	Iran	2	(Mohammadi <i>et al.</i> 2017)
Harabe	İran	3	(Mohammadi <i>et al.</i> 2018)

Table 1. List of multi-roomed rock-cut tombs.

the Elazığ with the Tunceli province. Therefore, the aforementioned artefacts were not found in an archaeologically controlled excavation and their exact provenance is not known beside the local account.

<sup>2</sup> I would like to express my gratitude to the directorate of Elazığ Archaeological Museum for allowing me to use photos (86982568-155.01-E. 191688).

amined over 40 rock-cut tombs in eastern Anatolia in terms of their plan, number of rooms and interior equipment. The multi-roomed rock-cut tombs were dated to the Urartian period if they were located in the citadels, had big doors, had a platform in front of the gate and if they did not have a kline. While multi-roomed rock-cut tombs only existed in Urartian territory (Fig. 1), the single-roomed rock-cut tombs existed in a wider area and they can be dated to the Hellenistic or Roman period (Köroğlu 2007).

Multi-roomed rock-cut tombs are located in Van, which was the capital of the Urartian kingdom and in other Urartian administrative and tribal centres (Fig. 1). While there are four rock-cut tombs belonging to the Urartian period in the capital, 26 rock-cut tombs (Table 1) have been detected in the provincial and tribal centres.<sup>3</sup>

Multi-roomed rock-cut tombs that were built outside the capital were constructed by the local governors or their families and they were associated with the Urartian period administrative centres of certain regions (Köroğlu 2011: 41). However, when that criterion was applied to the geographical distribution of such sites that contain multi-roomed rock-cut tombs, it became clear that some of these centres were very close to each other. This was possibly a sign of a change of political power and administrative centres in such regions. For example, Palu (Elazığ) Fortress, which includes three multi-roomed rock-cut tombs of Urartian period, is the only other centre that has more than one rock-cut tomb besides Van Fortress. This could be the result of three different dynasties at different times in the fortress of Palu.



Fig. 2. Anbar Fortress and multi-roomed rock-cut tomb; view from the east.

<sup>3</sup> As Altuntepe tombs are built underground with cut masonry, they are not included in this study.



## ANBAR FORTRESS

Anbar Fortress is located 500 m southwest of the village of Anbar in the Tunceli province (Fig. 1). The fortress is constructed on a 70 × 25 m high cliff on the western foothills of the Munzur Mountains (Figs. 2-3). Some sources refer to it as Birman Fortress because of the proximity of the village of Birman (Osmanoğlu 1966). The fortress is about 1.5 km southwest of the main road passing through the valley.

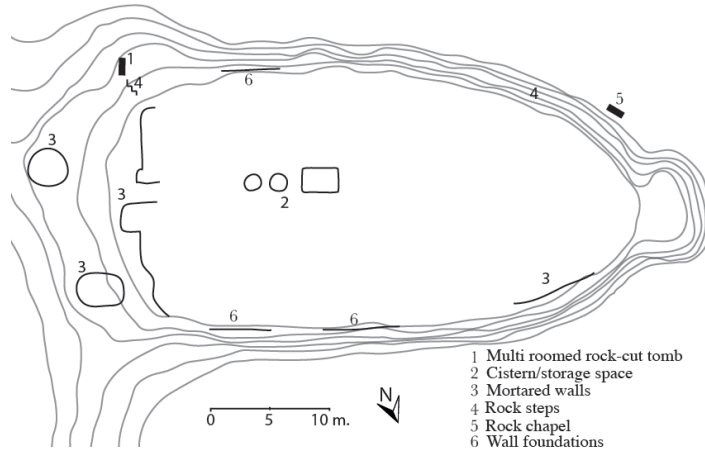


Fig. 3. Anbar Fortress; topographical map with location of the remains (re-illustrated from Danik 2004).



Fig. 4. Anbar Fortress; view from the southwest.

Some parts of the fortification walls that surround the ridge, wall foundations and two round shaped towers at the east of the fortress can easily be identified (Fig. 3). When visiting the site one can easily distinguish two different construction periods at Anbar Fortress. While the wall foundations, multi-roomed rock-cut tomb and some parts of the rock step belong to the Urartian period, the mortared walls, towers, rock steps, cisterns/storage spaces (two round and one rectangular) and a rock chapel at the southwest of the fortress can be dated to the Medieval period. At the southwest of the fortress there are rock steps leading from the citadel to the rock chapel (Fig. 4). It can be assumed that along with the rock chapel, these steps belonged to the Medieval period. However, the steps that lead to the rock-cut tomb could have belonged to the same period as the rock-cut tomb, i.e. the Urartian period.

### THE MULTI-ROOMED ROCK-CUT TOMB OF ANBAR

The multi-roomed rock-cut tomb, which is 11 m high above the ground, is located at the southeastern edge of the citadel. A 2 m<sup>2</sup> area was carved out at the east side of the bedrock to provide an entryway and a front platform of 1.5 m<sup>2</sup>. It can be reached by the steps that have been carved out of the bedrock in the northeast of the entrance (Fig. 5). There are twelve rock steps with the average width of 50 cm.

The tomb consists of an entrance hall, a main room and a joined room behind it (Fig. 6). The entrance hall (1.10 × 1.70 m) is built with an arch and gets narrower from the northwest wall to the entrance. This room has a flat ceiling with an average height of 1.80 m. An oval shape is formed where the ceiling and other walls are connected. However, it is not clear whether the entrance hall had a door or not (Fig. 7).

The passage from the entrance hall to the first room is accessed by an arched doorway, measuring 0.70 × 1.53 × 0.48 m. Signs of lock parts can be observed on the door sides. The room is 3.20 × 4.30 m and has a square form and its floor is filled with debris.

The ceiling height of the first room is 2 m and the edges where the ceiling and walls meet are vertically cut. Compared to the adjoining room, the craftsmanship of the walls and



Fig. 5. Anbar rock-cut tomb: the rock steps descending to the entrance of the rock-cut tomb.

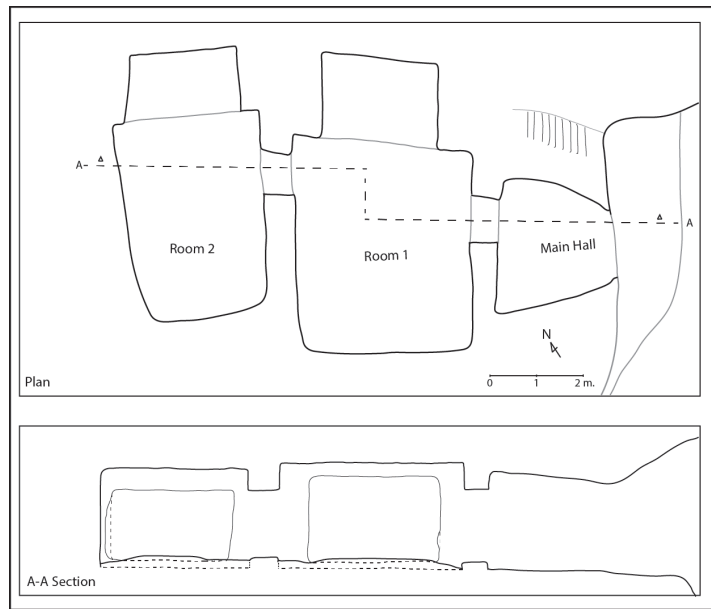


Fig. 6. Plan and section of the Anbar rock-cut tomb.





Fig. 7. Entrance to the Anbar rock-cut tomb.



Fig. 8. Anbar rock-cut tomb; view from Room I, looking toward the entrance of Room II and niche.



Fig. 9. Anbar rock-cut tomb; view from inside of Room II.



Fig. 10. Anbar rock-cut tomb; view from Room II looking at to the niche.

ceiling of this one appears to be better. There is a rectangular niche that is 2.23 m in width, 1.60 m in depth and 1.50 m in height in the northeast wall of the room and as in the case of the main entrance hall the floor of this room is also filled with debris (Fig. 8).

The second room is located behind the first room. The entrance is accessed by a  $0.80 \times 1.46 \times 0.60$  m sized arched doorway at the left side of the room with signs of lock parts on the rock surface. The room is  $3.85 \times 2.20$  m in size and has a flat ceiling. The juncture parts of the northern and southern walls to the ceiling are oval (Fig. 9) and the floor is covered with debris. There is a niche which is 2.25 m in width, 1.44 m in height and 1.25 m in depth in the eastern wall of the room (Fig. 10).

## DISCUSSION AND CONCLUSION

The location of the Anbar rock-cut tomb is similar to the other known multi-roomed rock-cut tombs of the Urartian period, where such structures were located within fortress walls. Likewise, having a platform at the entrance and reaching the tomb via the rock steps are again

among the common features of multi-roomed rock-cut tombs which can also be observed in Van Fortress (Köroğlu 2008: 23-29).

The gate of the Anbar rock-cut tomb is shaped by a big, arched form which continues with an aperture that is identified as the entrance hall. Neft Kuyu (Van) and Kaleköy rock-cut tombs have identical arched gateways (Sevin 2012: 99). Having a gate with a barrel vault and bearing niches that have similar aspects are features that appear both in Kaleköy and Anbar multi-roomed rock-cut tombs (Öğün 1978: 643). In addition, a part of the oval shaped ceiling in the second room of the tomb bears a resemblance to the second room of Palu III (Sevin 1994: 65; Fig. 7). In these two tombs, the junctures of the side walls to the ceiling are oval which appears as a vaulted structure.

The expenditure and heavy labour spent during the construction of the multi-roomed rock-cut tombs indicate that these tombs were built for tribal dynasties. Furthermore, being located in the citadel denotes the connection of the owner of the tombs to the fortress. The most distinct example of this exists in Van Fortress. Four multi-roomed rock-cut tombs at the citadel of Van were built for the Urartian kings, showing that Urartian kings were buried in magnificent mausoleums while palace workers and other people were buried in the underground tombs at Altın-tepe/Van cemetery which is located 2 km north of Van Fortress (Sevin 2012: 107).

However, multi-roomed rock-cut tombs that are located outside Van were not constructed by the kingdom itself.<sup>4</sup> These tombs are similar to the ones at Van in terms of being multi-roomed, being located in the citadel and are accessible via rock steps or a narrow path. Fortresses that include multi-roomed rock-cut tombs differ from Van Fortress in respect of their dimensions, locations and units that exist at such sites.

The size of Anbar Fortress (70 × 25 m) is similar to the other fortresses that have multi-roomed rock-cut tombs such as Kaleköy/Mazgirt (Öğün 1978) in Tunceli; Şirinlikale (Işık 1987), Taşbulak (Ceylan 2015: 283) and Pekerçi (Çevik 2000) in Erzincan; Marifet (Başgelen 1992) in Erzurum and Yoğunhasan (Belli and Alpaslan 2002) in Kars. These fortresses cover an area of less than one hectare. They are located at the foothills of mountains, at the borders of highlands and in non-arable pastures areas. Hence, it can be argued that animal husbandry was a dominant economic activity in these regions.

When considering the distribution of the fortresses with multi-roomed rock-cut tombs, it became evident that these sites were not constructed in the immediate surroundings of the royal cities built by the Urartian kingdom. The fortresses that are mentioned above, did not include temples, palaces or big storage rooms normally found in the Urartian royal cities. In fact, the only real factor that reflects an explicit Urartian feature is that the rock-cut tombs are multi-roomed (Köroğlu 2011: 35-46). Except for this, the rarity of architectural elements that define Urartian criteria, the size and location of the fortresses and the fact that they were far away from direct Urartian control, indicate the localness of the fortresses. These fortresses

<sup>4</sup> Apart from Van Fortress (Tuşpa) there are no multi-roomed rock cut tombs in Urartian royal cities which are Y. Anzaf, Çavuştepe, Ayanis, Körzüt, Kef Kalesi, Aznavurtepe, Arin Berd, Armavir Blur, Karmir Blur and Bastam (Köroğlu 2011: 33).

were probably built by local tribal chiefs, who may have been under the rule of the Urartian monarch. These chiefs may have imitated the multi-roomed rock-cut tombs from Van Fortress for themselves and later with the expansion of the Urartian central administration authority it is likely that these tribes may have integrated into the Urartian provincial system.

#### BIBLIOGRAPHY

- Başgelen, N., 1987 — Arabindi I Kaya Mezarı Üzerine Gözlemler. *Arkeoloji ve Sanat* 36-37: 8-11.
- Başgelen, N., 1992 — Marifet Kaya Mezarı. *Arkeoloji ve Sanat* 54-55: 31-32.
- Başgelen, N., 1995 — Neue Erkenntnisse zum Felsengrab Atabindi I. In: A. Erkanal (ed.), In Memoriam İ. Metin Akyurt-Bahattin Devam Anı Kitabı. Eski Yakın Doğu Kùltürleri Üzerine İncelemeler/Studies for Ancient Eastern Cultures, Arkeoloji ve Sanat Yayınları: 53-64.
- Başgelen, N., 1997 — Hasanova-Erzurum Kaya Mezarları. *Arkeoloji ve Sanat* 78: 28-31.
- Başgelen, N., 1998 — The Çelikli-Erzurum Rock-Cut Tomb. In: G. Arsebük, M.J. Mellink, W. Schirmer (eds.), Light on Top of the Black Hill. Studies presented to Halet Çambel. Karatepe'deki Işık Halet Çambel'e Sunulan Yazılar, Arkeoloji Sanat Yayınları: 95-103.
- Belli, O., 1993 — Der beschriftete Bronzeshelm des Königs Menua aus der Festung Burmageçit bei Tunceli. In: M.J. Mellink, E. Porada, T. Özgüç (eds.), Nimet Özgüç'e Armağan. Aspects of Art and Iconography: Anatolia and Its Neighbors. Studies in Honor of Nimet Özgüç, Türk Tarih Kurumu Basımevi: 61-67.
- Belli, O., and A. Ceylan, 2002 — Kuzeydoğu Anadolu'da bir Tunç Çağı ve Urartu Kalesi: Yoğunhasan. *Türkiye Bilimler Akademisi Arkeoloji Dergisi* 5: 119-142.
- Burney, C.A., 1957 — Urartian Fortresses and Towns in the Van Region. *Anatolian Studies* 7: 37-53.
- Burney, C.A., 1966 — A First Season of Excavations at the Urartian Citadel of Kayalıdere. *Anatolian Studies* 16: 55-111.
- Ceylan, A., 2015 — Doğu Anadolu Araştırmaları II (Erzurum-Erzincan-Kars-Iğdır 2008-2014). Erzurum: Atatürk Üniversitesi Yayınları.
- Charlesworth, M.F., 1980 — Three Urartian Tombs at Palu in Turkey. *Archäologische Mitteilungen aus Iran* 13: 91-97.
- CTU, 2008 and 2012 — Salvini, M., Corpus dei Testi Urartei vols. 1-4. Rome: Documenta Asiana 8.
- Çevik, N., 2000 — Urartu Kaya Mezarları ve Ölü Gömme Gelenekleri, VI-58. Ankara: Türk Tarih Kurumu Yayınları.
- Çifçi, A., 2017 — The Socio-Economic Organisation of the Urartian Kingdom. Boston: Brill.
- Danışmaz, H., 2018 — Arkeolojik Veriler Çerçevesinde Urartu Krallığının Eyalet Sistemi/Provincial Administration of the Ancient Kingdom of Urartu within the frame of Archaeological Data. PhD dissertation, University of İstanbul.
- Danık, E., 2002 — Yukarı Fırat Bölgesi 2000 Yılı Arkeolojik Yüzey Araştırması. *Araştırma Sonuçları Toplantısı* 19/1: 79-92.

- Danık, E., 2004 — Yukarı Fırat Bölgesi 2002 Yılı Arkeolojik Yüzey Araştırması. *Araştırma Sonuçları Toplantısı* 21/1: 139-154.
- Dan, R., 2012 — From Tushpa to Militia. Further considerations on the Westward expansion of the Kingdom of Urartu. *Armenian Journal of Near Eastern Studies* VII/2: 54-83.
- Erdoğan, S., 2017 — Demir Çağ ve Hellenistik Dönem Tunceli Yüzey Araştırması. *Araştırma Sonuçları Toplantısı* 35/2: 447-468.
- Işık, F., 1987 — Şirinlikale. Eine unbekannte urartäische Burg und Beobachtungen zu den Felsdenkmälern eines schöpferischen Bergvolks Ostanatoliens. *Belleten* 51/100: 497-533.
- Kleiss, W., 1968 — Urartäische Plätze in Iranisch-Azerbaidjan. *Istanbul Mitteilungen* 18: 1-44.
- Kleiss, W., 1971 — Bericht über Erkundungsfahrten in Iran im Jahre 1970. *Archäologische Mitteilungen aus Iran* 4: 51-111.
- Kleiss, W., 1974 — Planaufnahmen urartäischer Burgen und Neufunde urartäischer Anlange in Iranisch-Azerbaidjan im Jahre 1973. *Archäologische Mitteilungen aus Iran* 7: 79-106.
- Kleiss, W., and H. Hauptmann, 1976 — Topographische Karte von Urartu. *Archäologische Mitteilungen aus Iran, Ergänzungsband*. Berlin: Dietrich Reimer Verlag.
- Köroğlu, K., 1996 — Urartu Krallığı Döneminde Elazığ (Alzi) ve Çevresi. İstanbul: Arkeoloji ve Sanat Yayınları.
- Köroğlu, K., 2007 — New Observations on the Origin of the Single-Roomed Rock-Cut Tombs of Eastern Anatolia. In: M. Alparslan, M. Doğan-Alparslan, H. Peker (eds.), Belkıs Dinçol ve Ali Dinçol'a Armağan. VITA. Festschrift in Honor of Belkıs Dinçol and Ali Dinçol. Ege Yayınları: 445-456.
- Köroğlu, K., 2008 — Urartu Kaya Mezar Geleneği ve Doğu Anadolu'daki Tek Odalı Kaya Mezarlarının Kökeni. *Arkeoloji ve Sanat* 127: 21-38.
- Köroğlu, K., 2011 — Urartu: Krallık ve Aşiretler. Urartu: The Kingdom and Tribes. In: K. Köroğlu, E. Konyar (eds.), Urartu: Doğu'da Değişim/Transformation in the East. Yapı Kredi Yayınları: 12-55.
- Köroğlu, K., and H. Danişmaz, 2018 — The Origin of Stepped Rock-Cut Tunnels in Eastern Anatolia. *Ancient Near Eastern Studies* 55: 107-124.
- Lehmann-Haupt, C.F., 1910 — Armenien Einst und Jetzt: Reisen und Forschungen von C.F. Lehmann-Haupt I-II. Berlin.
- Mohammadi, B.K., K.H. Mohammadi, and R. Dan, 2017 — Two New Rock-cut Tombs in the Baranduz Valley, Iran. *Iran and Caucasus* 21: 345-361.
- Mohammadi, B.K., K.H. Mohammadi, and R. Dan, 2018 — Kal Kharabe: A Recently Discovered Fortress and Rock-Cut Chamber in the Orumiyeh Basin, Iran. *Iranica Antiqua* LII: 55-76.
- Osmanoğlu, C., 1966 — Tunceli'nde Tarih. *Yeni Fırat* 29: 16-17.
- Öğün, B., 1978 — Die urartäischen Bestattungsbräuche. In: S. Şahin, E. Schwertheim, J. Wagner (eds.), Studien zur Religion und Kultur Kleinasiens: Festschrift für Friedrich Karl Dörner zum 65. Geburtstag am 28. Februar 1976. Brill: 639-678.
- Özfırat, A., 2002 — Van Gölü'nün Batı Kıyısında İki Urartu Merkezi. *Arkeoloji ve Sanat* 108: 21-26.
- Schäfer, H.-P., 1973-74 — Zur Stele Menuas aus Bağın. *Istanbul Mitteilungen* 23-24: 33-37.
- Sevin, V., 1994 — Three Urartian Rock-Cut Tombs from Palu. *Tel Aviv* 21/1: 58-67.
- Sevin, V., 2005 — Elazığ Bahçecik Yazısı ve Urartu Eyalet Sistemi Üzerine Düşünceler. The Inscription of Elazığ/Bahçecik and Some Observations about Urartian Province System. *Fırat Üniversitesi Sosyal Bilimler Dergisi/Fırat University Journal of Social Science* 15/2: 379-384.
- Sevin, V., 2012 — Van Kalesi: Urartu Kral Mezarları ve Altuntepe Halk Mezarlığı. İstanbul: Ege Yayınları.
- Sevin, V., 2015 — Hakkari Taşları II Gizemin Peşinde. Ankara: Türk Tarih Kurumu.
- Topaloğlu, Y., 2012 — Yeni Buluntular Işığında Kuzeydoğu Anadolu Kaya Mezarları. *Sosyal Bilimler Enstitüsü Dergisi* 10: 131-163.
- Wünsch, J., and D.H. Müller, 1886 — Die Keilinschrift von Aschrut-Darga. In: Denkschriften der Philosophisch-Historische Classe der Kaiserlichen Akademie der Wissenschaften, Bd. 36, Wien.

## THE 'PRYTANEION' OF SAGALASSOS. Unravelling an Architectural and Functional Palimpsest

Inge Uytterhoeven and Jeroen Poblome\*

### *Abstract*

*Among the public buildings that played a prominent role in the civic affairs of Roman and Late Antique Sagalassos (Ağlasun, Burdur – Turkey) the large construction at the southwest corner of the city's Upper Agora, the so-called 'Prytaneion', takes a prominent place. First constructed briefly after the middle of the 1<sup>st</sup> century CE, the building underwent different interventions, with the most fundamental, architectural changes taking place between the early 5<sup>th</sup> and early 7<sup>th</sup> centuries CE. This article presents the preliminary results of the research that has been carried out on the 'Prytaneion' thus far, by placing the building against the broader background of urban development of ancient Sagalassos during the Roman Imperial and Late Antique periods and by looking into its role in the ancient city as the possible prytaneion of Sagalassos.*

### INTRODUCTION

In the second half of the 1<sup>st</sup> century CE two well-known benefactors of Sagalassos (Ağlasun, Burdur – Turkey) financed the construction of a large public building with impressive entrance façade at the southwest corner of the Upper Agora (Fig. 1). Located immediately to the south of the city's Bouleuterion, it bordered the north side of the southwest street that entered the Upper Agora via the Southwest Arch dedicated to Claudius and Germanicus. Although no unequivocal epigraphical or archaeological evidence is currently available to identify the function of the construction with certainty, its impressive character and architectural features as well as its prominent location in the city centre, next to the Bouleuterion, suggest that the building could (at least during part of its history) have functioned as the *prytaneion* of Sagalassos, the office of the city's chief official, where the eternal flame of Hestia was kept alive, the daily activities of the town were organised and guests as well as benefactors were received<sup>1</sup>. The 'Prytaneion' remained a visible landmark throughout the entire Roman Imperial period into Late Antiquity; however, not without undergoing clear architectural and functional transformations from the 5<sup>th</sup> century CE onwards. Eventually, the construction started to collapse in the early 7<sup>th</sup> century CE, after which it may have been the scene of some limited Early Byzantine activities.

\* Assoc. Prof. Dr. Inge Uytterhoeven, Department of Archaeology and History of Art, Koç University, Rumelifeneri Yolu, 34450 Sarıyer – Istanbul, Turkey. Prof. Dr. Jeroen Poblome, Director of the Sagalassos Archaeological Research Project, Department of Archaeology, University of Leuven, Blijde Inkomststraat 21/3314, 3000 Leuven, Belgium.

<sup>1</sup> For the functions of the ancient *prytaneion*, see Miller 1978: 4-24; Steskal 2010: 1-7; Gelhorn 2011. For Hestia; see Merkelbach 1980.





Fig. 1. View of the 'Prytaneion' at the southwest corner of the Upper Agora, next to the Southwest Arch for Claudius and Germanicus and the Southwestern Honorific Column (from the east).  
© Sagalassos Archaeological Research Project.

This article presents the preliminary results of the research that has been carried out on the so-called 'Prytaneion' of Sagalassos thus far. After having been singled out as an important public structure already during the first exploratory surveys on the archaeological site in the late 1980s and the subsequent first systematic investigations of the Upper Agora in the early 1990s, the building's central space as well as part of one of its side-spaces were excavated during the summers of 2009, 2010, 2015, 2016

and 2017. In 2018, an additional architectural study focused on the monumental east façade of the 'Prytaneion' and other architectural fragments recovered during the excavations<sup>2</sup>. The current study results allow a preliminary reconstruction of the structure's building and occupation phases between the 1<sup>st</sup> and 7<sup>th</sup> centuries CE, as well as an insight in the functional continuities and changes it underwent within the broader urban developments of the Upper Agora and the ancient city during its century-long use. The research on the 'Prytaneion' of Sagalassos illustrates how a combined study of stratigraphy, architectural and decorative features and material culture can help to unravel the architectural and functional palimpsests ancient buildings generally are.

#### THE HISTORY OF THE 'PRYTANEION' OF SAGALASSOS: PRELIMINARY RESULTS

The investigation of the 'Prytaneion' goes back to the general urban and epigraphical survey activities that were carried out at Sagalassos in the 1980s as part of the Pisidia Survey Project directed by S. Mitchell. During this first systematic fieldwork the building with false Corinthian façade was tentatively identified as the 'Agoranomion', the market inspectors' office, of the ancient city<sup>3</sup>. In 2009, under the directorship of M. Waelkens, a test excavation was

<sup>2</sup> The 2009 excavations were supervised by H. Uleners and R. Willet, assisted by A. van Oyen. Since 2010, the research has been carried out under supervision of I. Uytterhoeven, assisted at different moments by R. Van Beeumen, A. Miles, A. Albay, W. Decramer and I. Vandersmissen. In 2018 the architectural study was carried out in collaboration with G. Üner and her architectural team and with archaeology students A. Albay, Y.S. Güler, R. Fidan, E. Tugay, P. Sevilmiş and S. Özkan.

<sup>3</sup> For the office of agoranomos and the agoranomion, see Migeotte 2005; Capdetrey and Hasenohr 2013a (including the general overview in Capdetrey and Hasenohr 2013b). For political buildings on the agorai of the Hellenistic and

carried out in the northeast corner of the building and the structure was identified as the possible *prytaneion* of Sagalassos for the first time<sup>4</sup>. During the summer campaign of 2010 sections of the building's southern wall and its eastern façade were excavated as part of the fieldwork carried out at the southwest corner of the Upper Agora, which focused on the Arch of Claudius and Germanicus but also exposed a stretch of the Southwest Street leading to the Upper Agora, the Southwest Honorific Column and the Western Agora Portico<sup>5</sup>. After this, the 'Prytaneion' became focus of renewed research in 2015, when, under the directorship of J. Poblome, large-scale excavations were executed within the building. The main part of the 'Prytaneion' was further exposed in 2016 and 2017<sup>6</sup>. In addition, in 2018 a study campaign was dedicated to the architectural fragments that had been recovered during the earlier excavations, including those of the monumental east façade and numerous *spolia*<sup>7</sup>.

During the excavation campaigns, the large main space of the building, which was directly accessed via a monumental entrance giving out on the Upper Agora, could be entirely exposed up to its mosaic floors. In addition, control excavations were carried out underneath the floor level to obtain more precise chronological data on the construction phases of the building. Apart from this, a smaller side room, located to the northwest of the main space, was partly excavated, but could not be totally exposed due to accessibility issues for the crane. In addition, the study of the architectural elements of the building allowed a first restitution of its eastern façade.

The fieldwork carried out thus far has allowed reconstructing the building history, appearance, and use of the 'Prytaneion' during its different occupation phases between the late Julio-Claudian period and its abandonment by the middle of the 7<sup>th</sup> century CE. Furthermore, it has offered some insights in the post-Classical use of the site during and after its collapse.

### **Phase 1. The Construction of a Large Public Building at the South-West Corner of the Upper Agora**

Shortly after the middle of the 1<sup>st</sup> century CE a large public building was built at the southwest corner of the Upper Agora. These construction works fitted within the framework of wide-ranging interventions on the agora. What can be considered as a phase of monumentalisation started in the first half of the 1<sup>st</sup> century CE, under the rule of Augustus. During this phase the agora was provided with several honorific monuments and received its first pavement of limestone slabs. The process was initiated with the erection of four Honorific Columns carrying bronze statues of benefactors, which were placed at the corners of the recently enlarged agora and are stylistically and stratigraphically dated to the (Middle or) Late Augustan period<sup>8</sup>.

---

Roman Greek World, see Dickenson 2017: 88-95; 287-291.

<sup>4</sup> Waelkens *et al.* 2010.

<sup>5</sup> Uytterhoeven *et al.* 2011; 2012.

<sup>6</sup> Uytterhoeven 2018; 2019.

<sup>7</sup> To be published in KST 41.

<sup>8</sup> Waelkens 2018a: 7-8; 2018b: 9. For the architectural decoration and dating, see Vandeput 1993: 193-198; 1997: 46-49; 196-197; 246-249 Pls. 13.2-16.2. For the stratigraphical dating, see: Talloen *et al.* 2015, 2016; Talloen and Poblome 2016: 121-124.



Fig. 2. Plan of the 'Prytaneion' after the 2017 excavations. © Sagalassos Archaeological Research Project.

The ensuing construction of porticoes surrounding the agora turned the square into a monumental area<sup>9</sup>, which would also in the next generations, throughout the entire Roman Imperial period, function as a showcase for local elite members, Roman emperors and imperial officials, gods and heroes and the people by means of honorific monuments and statues<sup>10</sup>. In this period, the local upper-class families tried to put a clear stamp on the city-scape by financing public buildings, as illustrated by the 'Prytaneion'.

Despite the many interventions the 'Prytaneion' would undergo in later centuries, some of its original architectural and decorative features can still be reconstructed. The building seems to have consisted of a large square space of 15 m × 15 m that was, perhaps already in this time, flanked by one room in the northwest and possibly a corresponding space in the southwest (Fig. 2).

<sup>9</sup> Waelkens 2002: 332-333; Talloen *et al.* 2015: 106; 2016: 118; Talloen and Poblome 2016: 121-124; 129-135.

<sup>10</sup> Waelkens 2002: 333-335; 345; 351; 356; Waelkens and Poblome 2011: 80-87; 92-95; 144-146; Talloen and Poblome 2016: 135-140.

Control excavations carried out at different locations in the main space revealed that an impressive levelling action must have taken place before the actual building activities started. Since the depth of the bedrock in the test soundings underneath the floor level varied between 0.49 m and 1.46 m, a substantial amount of soil was carted in, to level the entire zone and to prepare the site for construction. These actions were clearly reflected in the many soil layers dumped on top of each other in the control excavations. The largest levelling intervention took place in the southwest of the main space where the bedrock was located at the lowest level. Ceramics retrieved from the four control excavations pointed to a construction date after the middle of the 1<sup>st</sup> century CE. The pottery represented a terminus post quem of 50-70 CE, according to the relative chronological evolution of the locally produced Sagalassos red slip ware. The sherds from these control excavations were very fragmented, yet consistent in their typological variation throughout these stratigraphies. The representation of cups of type 1A100 and bowls and dishes of types and variants 1B160-3 and 1C130-3 corresponded best to Phase 2 in the development of Sagalassos red slip ware<sup>11</sup>.

For the construction of the walls of the building large bossed ashlar were used, cut from the local white-pink coloured limestone. The blocks were combined in a pseudo-isodomic wall system<sup>12</sup>. The rusticated faces of the building elements seem to have been left unfinished as can be deduced from the variations in thickness between the rusticated sections of different blocks and even on individual ashlar. The ashlar masonry gave the building an impressive, sturdy appearance, especially on the south side where the 'Prytaneion' flanked the southwestern entrance street to the Upper Agora (Fig. 3). Similar, albeit late Hellenistic, stone façades flanked the southeastern and northeastern streets leading towards the agora<sup>13</sup>. The importance of the 'Prytaneion' was most of all underscored by its monumental entrance on the east side, through which it could be accessed from the agora (Fig. 4). This entrance consisted of three doors with a total height of c. 3.75 m, which were framed by Corinthian half-piers at the northern (northern half-pilaster: L.: 0.58 m; W.: 0.60 m; max. preserved



Fig. 3. View of the south wall of the 'Prytaneion' (from the southeast).  
© Sagalassos Archaeological Research Project.

<sup>11</sup> Poblome 1999: 311.

<sup>12</sup> For bossed masonry, which was originally developed for military architecture in the 4<sup>th</sup> century BCE because of its economic, military and aesthetical advantages, see Jansen 2016: 114-115.

<sup>13</sup> Talloen and Poblome 2016: 118-119; Uytterhoeven and Miles 2016: 86; Waelkens 2018b: 5; 9.





Fig. 4. View of the in situ remains of the east façade of the 'Prytaneion' (from the east).

© Sagalassos Archaeological Research Project.



Fig. 5. Corinthian capital of the northern half-column of the east façade of the 'Prytaneion'.

© Sagalassos Archaeological Research Project.

H.: 1.73 m, placed on a base of L.: max. 0.77 m; W.: max. 0.811 m; H.: 0.38 m) and southern ends (southern half-piaster: L.: 0.615 m; W.: 0.69 m; max. preserved H.: 0.42 m, placed on a base of L.: max. 0.79 m; W.: max. 0.756 m; H.: 0.51.3 m) and two half-columns in the centre (northern half-column: L.: 0.745 m; W.: 0.74 m; total H.: 1.07 m, placed on a base of L.: max. 0.775 m; W.: max. 0.71 m; max. preserved H.: 1.10 m; southern half-column: L.: 0.70 m; W.: 0.845 m; max. preserved H.: 0.78 m, placed on a base of L.: max. 0.78 m; W.: max. 0.78 m; max. preserved H.: 0.788 m). Both half-piers and half-capitals were topped with Corinthian half-capitals (H.: 0.559 m (southern half-pier); 0.576 m (southern half-column); 0.558 m (northern half-column); 0.561 m (northern half-pier) – Fig. 5).

Very few elements of the architectural decoration of the building were visible before the excavations in the 'Prytaneion' area started. The decorated surface remains, including the Corinthian half-capitals of the façade and a frieze(?) with palmette decoration located in the southwest corner of the building, were initially dated to the pre-Augustan period by M. Waelkens (second quarter or around the middle of the 1<sup>st</sup> century BCE)<sup>14</sup>. Following the excavation of the eastern

<sup>14</sup> For this first identification and dating, see Mitchell and Waelkens 1988: 61 (map with identification 'Avlu(?) – Courtyard(?)'); 62; Pl. V(b); Waelkens 1992: 51; 1993: 44; fig. 31; Vandeput 1997: 16-17; 237 Pls. 4.2-4.3. The



façade in 2010, M. Waelkens re-dated the half-capitals to the Late Augustan period<sup>15</sup>. However, based on their decorative characteristics, L. Vandeput proposes a chronological attribution to the post-Augustan period, around the middle of the first century CE. In comparison to the (Middle to) Late Augustan Corinthian half-capitals of the Honorific columns on the Upper Agora and the capitals of the Tiberian Southwest Gate on the Lower Agora<sup>16</sup>, where the veins of the leaves of the upper row are indicated right from the bottom of the kalathos, the corresponding leaves on the half-capitals of the 'Prytaneion' spring from a point much higher up the kalathos. Their helices are supported by the bracts, but they are nevertheless represented as if weighted down by the abacus. In contrast, the helices on the capitals of the Honorific Columns and of the Southwest Gate rise straight to the abacus. Whereas the helices on the Honorific Columns reach up very high above the bracts, the distance between the bracts and abacus is closer on the capitals of the Southwest Gate, as is also the case on the 'Prytaneion' half-capitals. Moreover, in line with the capitals of the Honorific Columns and those of the Southwest Gate, the bracts of the 'Prytaneion' half-capitals are depicted as growing from the caules, which is different from later capitals, whose bracts have a 'cradle'-like lower edge, giving the impression that the bracts balance above the caules instead of growing from them. This 'cradle'-like characteristic is illustrated on a Corinthian pilaster capital that was found in the open area between the 'Prytaneion' south wall and the Bouleuterion, which was labelled as 'West Courtyard' of the Upper Agora in the early years of research by the Sagalassos Archaeological Research Project<sup>17</sup>. However, apart from this difference in representation of the bracts, which points towards a slightly later date, this half-pilaster is very similar to the 'Prytaneion' capital and could either have belonged to the 'Prytaneion' or have been part of a building that was constructed around the same time. Based on these features L. Vandeput concludes that the half-capitals of the 'Prytaneion' show a stylistic evolution compared to the Augustan and Tiberian period and that these should be dated around the middle of the 1st century CE<sup>18</sup>.

In accordance with its monumental façade, the 'Prytaneion' was also richly decorated in the interior. A square mosaic (7.865 m × 7.865 m) was laid out in the centre of the space. Its currently badly preserved central area (min. 4 m × 4 m) was composed of a polychrome central panel in *opus vermiculatum* (made of white, black, red and orange *tesserae* of less than 0.4 cm × 0.4 cm), which possibly combined geometric with figurative motifs. The better preserved surrounding geometric borders were applied in black-and-white *opus tessellatum* (Fig. 6). These included a border of wave pattern in counter-changed colours (R 101b<sup>19</sup>) and a row of white tangent horizontal spindles and pairs of vertical spindles on a black background (R 23k), which was at two sides framed by a white-and-black border of serrated saw-tooth pattern

---

frieze(?) can be dated to the Pre- or Early Augustan period, because of its 'unorthodox decoration'. This type of experimental pieces mostly belongs to the Augustan period, rather than later, because the decoration swiftly became 'canonised'. See also Vandeput 1997: 17 n. 19.

<sup>15</sup> Uytterhoeven *et al.* 2011: 37-38.

<sup>16</sup> For this monument, see Vandeput 1997: 58-63; 255 Pls. 22.1-2

<sup>17</sup> Vandeput 1997: 119-120; 297 Pl. 64.1.

<sup>18</sup> The authors wish to thank L. Vandeput (British Institute at Ankara) for her critical input and exchange of information.

<sup>19</sup> The description of the patterns follows the descriptions of Balmelle *et al.* 1985.

(R 10g). The exterior border was formed by a repeated pattern of rows of spaced rectangles of swastika-meander, each composed of four swastikas with reverse returns opposed in pairs (R 187e), which were separated by a row of white tangent serrated poised squares (having each a central black *tessera*) forming black hour glasses (R 15c). The *tesserae* of this floor were placed in a nucleus of pink mortar, containing red brick/pottery pieces and white-coloured lime particles, that was constructed on top of a no longer preserved mortared rudus. This disappeared layer covered an underlying statumen, composed of a dark brown sandy soil, containing rubble, very small to medium-sized stones and schist fragments, as well as a few small brick/tile pieces (average thickness: 6.5 cm). The pottery from the statumen can be dated to the mid/full 1<sup>st</sup> century CE. With the use of *opus vermiculatum* the mosaicists of the ‘Prytaneion’ mosaic put themselves in line with earlier, Hellenistic traditions, when very small mosaic stones were frequently applied to imitate the effects of painting in a central panel that was surrounded by differently decorated bands. Given their high production cost, this type of floors strongly contributed to the opulence of buildings<sup>20</sup>. The floor in the ‘Prytaneion’ is a fairly exceptional Roman example of this mosaic technique, since from the Roman Imperial period onwards, *opus vermiculatum* was generally limited to small-scale depictions and medallions<sup>21</sup>. On the other hand, ‘Italian’ black-and-white geometric mosaics, applied in the ‘Prytaneion’ for the exterior border sections, were the most popular mosaic type in Asia Minor for several centuries<sup>22</sup>.



Fig. 6. Eastern section of the 1<sup>st</sup> century CE mosaic. © Sagalassos Archaeological Research Project.

The location of the square mosaic in the centre of the space leaves open the possibility that it once paved an open central space that was surrounded by columned porticoes. The relatively high number of re-cut and re-used pedestal fragments that were recovered from the collapse of the Late Antique southern and western walls (see Phase 4) could have formed part of such a peristyle courtyard.

At the opposite side of the entrance a 9 m-long inscription, applied on a backwall with top and bottom socle (W.: c. 1.00 m; H.: 1.255 m), eternalised that the building was financed by Tiberius Claudius Quirina Dareios and Tiberius Claudius Quirina Neon, sons of Oplagoas, who was the son of Kallikles, with their own money (*‘ek tôn idiôn’*; Fig. 7). These two brothers belonged to a well-known local family of benefactors who can be followed in the epigraphical record of the town over several generations in the 1<sup>st</sup> and 2<sup>nd</sup> centuries CE and changed the appearance of the ancient town by financing numerous building projects<sup>23</sup>. Dareius’ and Neon’s father Oplagoas had been honoured in the Middle or Late Augustan period with the North-

<sup>20</sup> For *opus vermiculatum* mosaics, see Dunbabin 1999: 25-26; 29; Scheibelreiter-Gail 2011: 71-72; 401-402.

<sup>21</sup> Scheibelreiter 2007: 68; Scheibelreiter-Gail 2011: 72; 402.

<sup>22</sup> Scheibelreiter 2007: 68; Scheibelreiter-Gail 2011: 400-401.

<sup>23</sup> Waelkens and Poblome 2011: 84; Waelkens 2015a: 102; Eich and Eich 2017: 193; Eich *et al.* 2018: 151-152; Waelkens 2018a: 9; 2018b: 9-11; 13; 15.



Fig. 7. View of the western backwall of the 'Prytaneion' with Tiberii Claudii inscription and imperial dedications on top (from the southeast). © Sagalassos Archaeological Research Project.

west Honoric Column on the Upper Agora. His name was there transcribed as Ilagoas; in some inscriptions a third variation, Eilagoas, is used. The Southwest Honoric Column, on the other hand, carried the statue of their uncle Krateros<sup>24</sup>. Moreover, Dareios' son Kallikles had monumentalised the southwest entrance to the Upper Agora with the arch that was located just behind the honorific column for his great-uncle Krateros. Presumably, the monument was originally dedicated to Caligula (37-

41 CE), but, due to his *damnatio memoriae*, in 42/43 CE re-dedicated to the next emperor, Claudius, and his brother Germanicus<sup>25</sup>. Furthermore, between 43 and 46 CE Kallikles paid for a statue to be placed on top of a second similar arch, that was built at the southeast entrance to the agora by the Demos and dedicated to Claudius<sup>26</sup>. Around the same time, a member of the same family, Krateros, son of Kallikles, might also have been responsible for the construction of a public building that preceded the later *Macellum*<sup>27</sup>.

Before Dareios constructed the 'Prytaneion' together with his brother Neon, he and his sons Kallikles and Ilagoas(?), had already built an arch in honour of Germanicus and Claudius, the god, near the NW Heroon. In this case, father and sons were each identified with a Tiberius Claudius name, indicating that the family had become Roman citizens and that they presumably received the citizenship under Claudius<sup>28</sup>. Neon, Dareios' brother, was similarly referred to as a Roman citizen in two inscriptions that were dedicated to him in this time<sup>29</sup>. Since Dareios and Neon also used their Roman names in the 'Prytaneion' inscription, the text can be placed at the earliest in Claudius' reign, after 46 CE (when Kallikles was still only using his Greek name on the Southeast Arch), or perhaps under Nero. There is indeed evidence that during Nero's reign (54-68 CE), the family continued embellishing the city with building projects, now addressed to the new emperor. Thus, Dareios and his sons Kallikles and Ilagoas(?)

<sup>24</sup> Eich and Eich 2017: 193; Waelkens 2018a: 7-8; Eich *et al.* 2018: 151-155 Nrs. 66-69.

<sup>25</sup> Eich *et al.* 2018: 51-55 No. 8.

<sup>26</sup> Eich *et al.* 2018: 55-57 No. 9a-b.

<sup>27</sup> Eich *et al.* 2018: 84; Waelkens 2018b: 9.

<sup>28</sup> Eich and Eich 2017: 193-194; Eich *et al.* 2018: 57-58 No. 10.

<sup>29</sup> Eich *et al.* 2018: 155-156 Nrs. 69-70.

dedicated a building to Nero as ‘Neos Helios’<sup>30</sup>. Besides, the construction financed by Kallikles (possibly together with other contributors) in honour of the ‘Theoi Sebastoi’ (*Divi Augusti* – Claudius and Nero), the ‘Theoi Patrioi’ (Gods of the Fatherland) and the Demos, which must have been located along the main east-west axis of the city, might also date from after Claudius’ death<sup>31</sup>. Thus far, Dareios and his sons are the first inhabitants of Sagalassos known to have received Roman citizenship. The same family would also deliver the first Roman knight of the ancient city under Vespasian<sup>32</sup>. Through the marriage of one of the family’s female members, Claudia Severa, with Titus Flavius Neon in the early 2<sup>nd</sup> century CE the Tiberii Claudii would, moreover, become related to a second prominent family of benefactors at Sagalassos, the Titi Flavii (Neones)<sup>33</sup>.

By selecting the southwest corner of the Upper Agora as the building plot of one of their larger building projects Dareios and Neon made the family even more present in this part of the agora than they already had been until then. The Southwest Arch, the Southwest Honoric Column and the ‘Prytaneion’ façade, all located next to each other (Fig. 1), must have functioned as an ostentatious marker of the prominent role this family played in the development of the urban armature.

The currently available chronological data, based on pottery, architectural decoration and epigraphy, thus place the construction of the ‘Prytaneion’ around the middle of or slightly later, in the second half of the 1<sup>st</sup> century CE, making it one of the major late Julio-Claudian building projects in Sagalassos. Unfortunately, at this moment its original function is not certain, since the inscription honouring its benefactors does not mention the type of construction they financed. Nevertheless, it is beyond doubt that it fulfilled a significant role in the Roman Imperial period. Due to its prominent location on the Upper Agora and its impressive character the building is a good candidate to have been the *prytaneion* of Sagalassos. Moreover, since *prytaneia* attested elsewhere were generally provided with a peristyle courtyard, the possible presence of a mosaic-paved porticoed area in the main space might additionally support such an identification<sup>34</sup>.

## Phase 2. The First Building Interventions in Late Antiquity

After its construction around the middle of the 1<sup>st</sup> century CE, the ‘Prytaneion’ stayed in use throughout the entire Roman Imperial period into Late Antiquity. Although the building may have undergone certain rebuilding and refurbishment operations throughout the Imperial period, the first interventions that are archaeologically attested go back to Late Antique times. To the earliest Late Antique building activities that can be recognised, though not pre-

<sup>30</sup> Eich *et al.* 2018: 60-61 Nr. 12.

<sup>31</sup> Eich *et al.* 2018: 156-158 Nr. 71.

<sup>32</sup> For the family of the Tiberii Claudii, see Devijver 1996: 108-109; Waelkens 2015b: 229-233 Fig. 8; Eich *et al.* 2018: 59.

<sup>33</sup> Waelkens and Poblome 2011: 84; Waelkens 2015a: 120; 2015b: 221; 228 Fig. 8; Eich and Eich 2017: 193-194; Waelkens 2018b: 10-11; 13; 15. For the Titi Flavii (Neones), see also Devijver 1993; Devijver 1996: 109-111; Eich *et al.* 2018: esp. 124-134 Nrs. 50-56; 169-174 Nrs. 83-86.

<sup>34</sup> See below, The ‘Prytaneion’ of Sagalassos? The Building and Its Continued Use in Late Antiquity.



cisely dated, belongs the rebuilding of the northern end of the west wall and its door opening leading to a (perhaps already existing) northwestern side room with *spolia* (max. preserved L.: 3.68 m; Fig. 8). Possibly, a no longer preserved symmetrically constructed door, located south of the western back wall with the Tiberii Claudii inscription, gave access to another side room in the south. If such a space existed, it might as well have gone back to the original layout of the Early Imperial building.



Fig. 8. Northern extension of the western backwall of the 'Prytaneion' with Mettius Modestus inscription, built in front of the Late Antique door that was blocked with *spolia* (from the east).  
© Sagalassos Archaeological Research Project.

At a later, again not precisely datable moment, the main space was closed off from its side room(s). The still preserved northern door in the west wall of the main space was blocked with *spolia* (Fig. 8). The east profile of the wall and blocked opening were plastered over and painted with two layers of stucco.

### Phase 3. The Transformation of the Central Space into a Three-Aisled Space

Presumably in the 5<sup>th</sup> century CE, the first Late Antique interventions were followed by larger-scale building and refurbishment operations, having a major impact on the layout and general character of the 'Prytaneion'. On this occasion, the construction was entirely rebuilt with earlier building elements as well as new materials. Thus, the 1<sup>st</sup> century CE Corinthian half-piers and half-columns of the eastern façade were now placed on spoliated building blocks functioning as the threshold of the triple door (total L. of threshold: 20.2 m; total L. of entrance framed by half-piers: 9.53 m). Of the two wall sections in spoliated rusticated ashlar that originally must have flanked the triple door at two sides, only the southern part is currently preserved (L.: 4.425 m; W.: 0.385 m; max. preserved H. (4 rows of ashlar): c. 2.20 m).

*Spolia* and new construction material were also applied for the southern and western walls of the main space, which were now conceived as double walls, each having an exterior and an interior face. As the northern wall was built against the Bouleuterion south wall, this one had only an interior face. The exterior walls were made of ashlar masonry (exterior south wall (Fig. 3): tot. L.: 17.30 m; W.: 0.60 m; max. excavated H.: 1.00 m; exterior west wall: L.: 8.10 m; W.: 0.875 m; max. excavated H.: 0.80 m), combining the rusticated ashlar of the original building phase with various types of decorated and undecorated re-used materials. In order to fit the new wall configuration, the older building materials were adapted before re-



use. Thus, the short sides of numerous rusticated blocks were cut obliquely and/or provided with recesses to fit better with the building elements flanking them. Besides, the original unfinished bossed faces were frequently cut off and the blocks were then used with their original front faces turned towards the interior of the wall. As is still visible in the in situ remains of the 'Prytaneion's southern and eastern walls, after adaptation, the blocks were combined in a pseudo-isodomic masonry with alternating horizontal rows of c. 30 cm and c. 60 cm high respectively, thus resembling the building's original masonry type (max. 7 rows preserved). Clearly, the combination of the different building materials, such as rusticated blocks, ashlar with double rustication, plain ashlar and decorated blocks, resulted in a more heterogeneous appearance than had been the case in the Roman Imperial period.

The interior walls were constructed in mortared rubble/brick masonry that integrated many limestone and marble *spolia*, including a number of limestone pedestal fragments (from a 1<sup>st</sup> century CE peristyle? – see Phase 1; interior south wall: tot. L.: 15.85 m; W.: max. 0.65 m; H. max. 1.835 m; interior west wall: max. preserved L.: 6.35 m; W.: 0.64 m; max. preserved visible H. (above the western backwall): 0.68 m), as well as decorated fragments and parts of different types of columns in blue-grey marble. Similar regular mortared rubble/brick masonry was used for the re-built northern wall, which was constructed against the south wall of the adjacent Bouleuterion (tot. L.: 12.38 m; W.: 1.40 m; max. excavated H.: 3.70 m). The interior surface of the main space defined by the walls was about 203 m<sup>2</sup> (14.12 m × 14.35 m).

As part of the same building intervention, the inscribed western backwall was extended towards the north and south (tot. L.: 14.35 m; W.: c. 1.00 m; max. excavated H.: 1.62 m) by means of re-used cornice, elevation and socle blocks that were built against the plastered and painted east profile of the west wall (north section (Fig. 8): L.: 2.96 m; W.: c. 1.00 m; H.: 1.28 m; south section: L.: 2.37 m; W.: c. 1.00 m; H.: 1.265 m). The socle elements of the extended backwall were placed on a base of elongated ashlar, which themselves were supported by a layer of mortared rubble. The gap in between the earlier west walls and the new wall extensions (W.: 0.24 m) was filled with a mixture of brown-yellowish sand, small stones and small mortar pieces, and covered with mortared rubble. The building materials used for the extended backwall were taken from a dismantled and re-cut 2<sup>nd</sup> century CE honorific monument, dedicated to C. Trebonius Proculus Mettius Modestus, governor of Lycia et Pamphylia under Trajan<sup>35</sup>, who is honoured in the text as patron (*patron*) and benefactor (*euergetes*) of the city, as well as to his wife, daughter and a fourth relative<sup>36</sup>. This honorific monument, which once must have stood on the Upper Agora, attests that Sagalassos had become part of the province of Lycia et Pamphylia by the early 2<sup>nd</sup> century CE AD. Besides, in the elevation built on top of the Tiberii Claudii and Mettius Modestus inscriptions, inscribed building blocks with dedications to different Roman emperors, including Titus and Trajan, were used as *spolia* (Fig. 7). Like the monument for Mettius Modestus and his family, these may have been re-used from a monument that originally adorned the nearby Upper Agora or could alternatively have been present in the 'Prytaneion' in another location.

<sup>35</sup> PIR2 M 568. See Rémy 1988: 169; Eck 2000: kol. 141 (II 4: C. Trebonius Proculus M. Modestus).

<sup>36</sup> For the inscription, see Uytterhoeven and Poblome in preparation.



Fig. 9. General view of the central space of the 'Prytaneion' after transformation in a tri-aisled construction (from the northwest).  
© Sagalassos Archaeological Research Project.

visible when entering the building, all other piers were rectangular (L.: 0.70-0.907 m; W.: 0.55-0.745 m). The piers formed four rows of five piers, each with interspaces varying between 2.20 m and 3.17 m and thus defined a narrower central nave (W.: 2.905-3.43 m) and two wider side aisles (north nave: W.: 4.11-4.373 m; south nave: W.: 4.37-4.65 m). Whereas sixteen piers were placed at the floor level, the four western-most piers were constructed on top of the western backwall.

In addition, the central 1<sup>st</sup> century CE mosaic, which was at some places cut away for the construction of the piers, was extended up to the walls of the main space with a black-and-white mosaic (Fig. 10). The central field of the new mosaic showed a lattice pattern of spaced swastika-meanders with single returns; in each of the spaces between the swastikas a lozenge was inscribed (alternating horizontal and vertical; variation on R 196b). Similar motifs, which were typical for the 5<sup>th</sup> and 6<sup>th</sup> centuries CE, occurred, for instance, in the East Basilica of Xanthos<sup>37</sup>. The repeated swastika motifs were framed by several monochrome fillets and bands in white-and-black (R 1i/t and 1y). Whereas the border areas of the mosaic close to the walls consisted of large irregular-shaped mosaic stones, all other *tesserae* were large, rectangular stones. They were placed in a pink mortar nucleus, which consisted of two layers of homogeneously coloured pink mortar including

Furthermore, also the interior organisation of the central space was changed during this building phase. By means of twenty brick piers, which were built on a mortared rubble foundation and integrated *spolia*, it was subdivided in three east-west oriented naves (Fig. 9). Whereas the two eastern central piers in the entrance area were wedge-shaped (north pier: L.: 1.00 m; W.: 0.20 m (E)/0.67 m (W); south pier: L.: 0.92 m; W.: 0.57 m (E)/0.64 m (W)), possibly to make them less



Fig. 10. View on the 5<sup>th</sup> century CE mosaic in the northwest of the main space (from the southwest). © Sagalassos Archaeological Research Project.

<sup>37</sup> Raynaud 2009: 50; 86.

small red terracotta particles, which covered a layer of crushed brick pieces (total thickness: 2.5 cm). This first foundation layer covered a grey-brownish mortar rudus (thickness: 4 cm) that was carried by a statumen of small to medium-sized stones, placed in a light brown, sandy soil including small brick/tile fragments and small schist stone pieces (average thickness: 8 cm). The pottery material in this statumen all dated to the 1<sup>st</sup> century CE (see Phase 1), thus showing that the earlier substrate layer belonging to the original pavement was still in use in Late Antiquity and that it now had become the basis of a newly-added rudus and nucleus. At several places, the Late Antique mosaic clearly followed the outlines of the piers and their mortared rubble foundation, which evidences that the piers were already there when the pavement was constructed, presumably as part of the same building intervention.

Taken together, the interventions on the building during this phase were considerable. Unfortunately, the archaeological record did not reveal indications as to why such substantial operations were required.

#### **Phase 4. The Rebuilding and Refurbishment of the Tri-Aisled Main Space**

This thorough rebuilding phase was quickly followed by another intervention due to a fire, which, based on the pottery dating, destroyed the building in the beginning or middle of the 5<sup>th</sup> century CE. As a result, the entire western backwall sustained heavy damage. Not only were black burning spots and cracks formed over the eastern face of the wall and its inscription, part of the wall surface even chipped off. Cracks and damage as a result of exposure to heat also appeared on the rusticated pseudo-isodomic wall sections of the eastern façade. Moreover, the fire also caused the destruction of the first tuff/brick piers (Phase 3) and the collapse of the ceiling and roof. Presumably, at least the upper elevation sections of the walls might have required rebuilding too.

Some repairs may have been needed in order to restore the monumental appearance of the 'Prytaneion' towards the Upper Agora. As had been the case before, the eastern façade consisted of three entrances, framed by the re-used half-piers and half-columns with Corinthian capitals of Phase 1 (Figs. 4-5), which were placed on a threshold composed of spoliated blocks. The central door opening (W.: 2.36 m) was flanked by two slightly narrower doors (W. of south door: 2.14 m; W. of N door: 2.12 m). The half capitals carried a door lintel (total L.: 10.20 m; H.: 0.50 m), consisting of an architrave section with three fasciae and a top moulding and ending in a northern and southern corner block. The cornice that topped the door lintel (H.: 0.45 m) was provided with a dentil frieze at its bottom and false lion-head spouts at the top. In total, the impressive façade must have been c. 4.70 m high. In addition, beam holes cut into the upper front faces of several cornice blocks give indications about the level and construction of the roof system of the Western Portico of the Upper Agora that was located in front of the 'Prytaneion's' entrance.

Although this could have been the case already in Phase 3 or even earlier, certainly during this rebuilding phase the 'Prytaneion' was provided with an upper floor. On some rusticated ashlar that were re-used in the walls, the original interior face, now turned towards the outside in the wall, was provided with newly-cut beam holes, indicating that they were placed at the level of the upper floor of the main space or that of the roof itself. In other cases,

the new beam holes were applied on the rusticated faces of the blocks. In addition, the number of collapse layers of architectural fragments that were documented during the excavations reflecting the final situation of the 'Prytaneion', as well as the insertion of window sills in the walls similarly indicate that the building must have had an upper storey.

During the rebuilding phase new tuff/brick piers were constructed in the same type of bricks as the first piers (Phase 3) and combined with tuff blocks. As much as possible the lower parts of the earlier piers were re-used as basis for the rebuilt piers, although the new piers were a bit narrower (L.: 0.505-0.765 m; W.: 0.54-0.74 m) and slightly more oriented towards the northeast (Fig. 11). As a result, the soccle sections of the new piers, which were actually the remains of the predecessor piers, were not equal in height in all piers. In some cases, the old piers must have been damaged to such a degree that these had to be replaced by totally newly-built ones (e.g. the second east pier of the south row of the central nave). Significantly, the new piers were less wide than the space that had been spared out for the old piers when the mosaic was laid out, which forms an additional proof that the mosaic was adapted to wider piers and thus belonged to the previous building intervention.



Fig. 11. View of the second west pier of the north row of the central nave, showing two building phases (from the south). © Sagalassos Archaeological Research Project.

As further part of this rebuilding phase, the interior of the main space was entirely refurbished. Cracks and openings in the western backwall caused by the fire were repaired with pink mortar and the entire east façade of the wall was plastered and decorated with polychrome paintings (e.g. ochre, pink, white, red, light green, light blue, dark blue), obscuring the inscriptions. The other walls received revetment in marble and coloured stone (e.g. Kaplan postu, Afyon şeker, onyx, purple-veined white marble) that was composed of plain crustae and sham architecture, such as top and bottom mouldings, half-columns with half-capitals and painted dentil friezes. The revetment was attached with metal clamps on a pink mortar basic layer, as evidenced by the parts that were preserved in situ on the southern, western and northern walls. Besides, the marble decoration was combined with polychrome wall paintings, showing architectural and figurative elements, such as vegetal motifs and human representations (Fig. 12). In addition, not only the walls, but also the tuff/brick piers were plastered and painted.

In relation to the occupation level associated with this phase, fragments of eight white marble *sigma* tables were found, three of which could be largely re-assembled (dimensions: c. 1.25 m × 1.25 m). These three tables were tool-marked and polished. Table 1, the most complete example (Fig. 13 – 123.7 cm × 123.5 cm; thickness: 1.5 cm (min.: central area)/4.6 cm (max.: border)) had a moulded rim, a polished upper surface and a flat, somewhat undulating bottom surface. On the other hand, Table 2 – max. 110.5 cm × 116.3 cm; thickness: 0.6 cm (min.: central area)/2.9 cm (max.: border)), had a much plainer rim on the straight end of which a small cross was carved. Finally, the least complete Table 3 (126.1 cm × 123.2 cm; thickness: 1.5 cm (min.: central area)/2 cm (max.: border)) differed from Tables 1 and 2 in having a





Fig. 12. Stucco fragments from the interior decoration of the 'Prytaneion'.  
© Sagalassos Archaeological Research Project.



Fig. 13. *Sigma* table 1 (after assembling of the fragments). © Sagalassos Archaeological Research Project.

much thinner rim (max. 1.6 cm), as it was carved out on the bottom surface. This resulted in a raised rim of more or less the same thickness as the rest of the table. The presence of such a large number of tables evidences that during this phase of use the rebuilt tri-aisled main space formed the scenery of dining events, either in the context of public receptions or in relation to the Church authorities, which had by this time become a major power in society.

### Phase 5. The Subdivision of the 'Prytaneion' and Its Continued Use until Its Collapse

After its major transformation in a three-aisled building and its subsequent rebuilding, the 'Prytaneion' underwent further changes. For instance, in the second half of the 5<sup>th</sup> century CE the east end of the north wall (rebuilt section: L.: 3.27 m; W.: 0.95 m; max. preserved H.: 2.48 m), as well as the northern section of the east wall, which must previously have consisted of rusticated masonry in correspondence with the currently still preserved southern part of the façade (rebuilt section: L.: 2.37 m; W.: 0.945 m; max. preserved H.: 109.2 m), were reconstructed in a mortared rubble/brick masonry including *spolia* that was much less regular than the type used for the earlier walls of Phases 3 and 4.

Despite several reparations with mortar, by the mid-6<sup>th</sup> century CE the earlier mosaic floors seem to have seen a lot of wear and/or were largely broken out up to their substrate layers. Only in the areas along the southern wall and the western backwall, as well as in the entire northern nave the pavement was still preserved. Possibly, the destruction of the mosaics was the direct result of another fire that left black burning traces on large sections of the preserved mosaic (Fig. 10), as well as on the crustae on the walls (as visible on the south wall).

To create a new, even floor level, soil was dumped on top of the preserved mosaic sections and substrate layers. In the northern nave, this resulted in a walking level of beaten earth, consisting of a compact layer of sandy soil, full of small mortar pieces and very small stones,



which showed variations in colour in the different zones of the aisle. In the east of the northern nave, at the northeast corner of the 1<sup>st</sup> century CE mosaic (Phase 1), the new compact floor level contained two fragments of the Late Antique floor that were displaced and ended up on top of an in situ section of the 1<sup>st</sup> century CE pavement. In this area, the original mosaic was very irregular. In contrast to the northern aisle, in the central and southern naves the soil on top of the mosaic remains was more a mixture of heterogenous, dumped material without having the same compact composition. At this stage, the western backwall started to deteriorate, as attested by an inscribed fragment ('ON') that ended up in the new floor level.

In association with the new beaten earthen floor, two subdivision walls in mortared rubble integrating *spolia* were built to separate the northern aisle from the rest of the building (Fig. 14 – east wall section: L.: 3.04 m; W.: 0.58 m; max. preserved H.: 0.32 m; wall west section: max. preserved L.: 1.875 m (possibly provided with a door of 1.12 m?); W.: 0.47 m; max. preserved H.: 0.51 m). These walls integrated the northern wedge-shaped pier, as well as the second and third piers. During this subdivision phase, building materials seem to have



Fig. 14. View of the main space of the 'Prytaneion' with the subdivision walls separating the northern from the central nave in the front (from the northeast). © Sagalassos Archaeological Research Project.

been piled up for later re-use and/or as waste material. This is illustrated by the large amounts of crusta fragments and pieces of sham architecture in different stone types (marble and coloured stone), shapes (e.g. plain, top and bottom mouldings, dentil friezes) and sizes (used as wall or floor decoration?) that were found in the northwest area of the space. In addition, from one of the collapse layers that later formed on top of this late floor level, fragments of so-called Michaelitai trays, Sagalassos red slip ware dishes with wide diameter of the 1B230-3 types and variants inscribed with a text referring to the supporters of the Archangel Michael, were retrieved (Fig. 15). Similar trays, which were also dedicated to this Archangel, were recovered during earlier excavations in the area of the Bouleuterion Church. In addition, acclamation inscriptions related to the Michaelitai have also been found on the Upper Agora and elsewhere in the ancient town, which expresses a special relation of the Sagalassians with the Archangel Michael<sup>38</sup>. In the context of the 'Prytaneion', these trays evidence that dining activities continued

<sup>38</sup> Talloen 2011: 588-590; Lavan 2013: 335; Talloen and Poblome 2016: 140; Jacobs and Waelkens 2017: 180; 182; Waelkens 2018b: 20.



Fig. 15. Fragment of Sagalassos red slip ware dish with Michaelitai inscription. © Sagalassos Archaeological Research Project.



Fig. 16. View of the cooking place in the northern nave (from the south). © Sagalassos Archaeological Research Project.

to play an important role in the building in this period, but that these now took place in a religious context. A fire place, built in rubble and *spolia* and covered with a compact red-coloured soil containing charcoal, was arranged in the northern aisle immediately west of the second tuff/brick pier (dimensions: 0.95 m × 1.00 m; Fig. 16). This suggests that this separated area may have been used for food processing and preparing, while the meals were served in the central and southern naves. A connection between the 'Prytaneion' and the 'Bouleuterion Church' might (at least) in this period also architecturally have materialised. During the excavations, large fragments of a limestone threshold were documented among the collapse material of the 'Prytaneion'. These seem to have been inserted in the upper elevation and thus may have belonged to a door that allowed access from the upper floor of the building to

the courtyard of the Bouleuterion Church in the north, which was provided with a large opening in the centre of the southern wing of seats.

## Phase 6. Collapses and Later Interventions

By the middle of the 7<sup>th</sup> century CE, the dining activities organised in the 'Prytaneion' came to an end when its walls, piers and roof started to collapse. The different concentrations of collapsed building material within the main space, which included rubble, brick and roof

tiles, tuff fragments and mortar pieces in different proportions attest that the 'Prytaneion' collapsed in various stages, possibly fairly close in time. During these collapse phases the building material of the 'Prytaneion' itself might have got mixed up with some elements from buildings located higher up the slope sliding into the main space (as e.g. attested by seats from the Bouleuterion).

During the excavations special attention was paid to concentrations of collapsed roof tiles. The large numbers of nails found in between the roof tiles, some of which still had wood fragments attached, form attestations of the (now disappeared) wooden beams of the roof structure. However, since both the tegulae and imbrices included a large variety of types, with different flanges and signatures, it is likely that the building was no longer covered by one regularly constructed roof at the moment of its collapse. In contrast, several smaller areas, resulting from a functional subdivision of the main space, might have had their own separate roofs or shelters, while other parts of the room may no longer have been covered. It cannot be excluded that some building ceramics were piled up as re-usable construction material and that these piles were eventually mixed with collapsed roof material. This is suggested by the large numbers of brick fragments that ended up in the roof collapse (almost equal numbers of roof tiles (tegulae (c. 5%) + imbrices (c. 1%) and brick fragments). Although bricks can have been used as roof cover, it might well be possible that the numerous brick pieces belonged to heaps of construction material on top of which roof sections came down. Several of the Corinthian tegulae retrieved from the main space carried the stamp 'EYPIK' (totally or partially preserved) referring to the brick manufacturer (Fig. 17). This possibly indicates that these roof tiles were the remains of a once more homogenous roof structure, composed of tiles produced in the same workshop. On the other hand, since similar stamps have been recovered during excavations all over the ancient site, including the Bouleuterion, Roman Baths and the Upper Agora, these can have been recycled from elsewhere<sup>39</sup>.

Once the first collapse packages of wall, pier and roof material had formed, certain intentional actions seem to have taken place in the northwestern part of the main space. On top of the first roof collapse in the northern nave, an area of c. 0.65 m (E-W) by 1.15 m (N-S) was defined by means of a vertically placed tegula fragment and a second, horizontally positioned tegula. Activities in the area are further reflected by the presence of many ceramics, faunal remains and charcoal pieces, which got mixed up with a soft, loose and sandy black soil, containing some small/medium mortar pieces and small stucco pieces (pottery dating: 1<sup>st</sup> century CE; 6<sup>th</sup> century CE).



Fig. 17. Tegula fragment with EYPIK stamp. © Sagalassos Archaeological Research Project.

<sup>39</sup> Loots *et al.* 2000: 688; 691-692; 695.



Subsequently, this late activity area, as well as the zone further to the northeast was covered with a very compact, dark brown sandy soil that, that given its compactness, seems to have been exposed for a while, before it was covered by more material from the deteriorating walls.

Slightly later, larger sections of the roof(s) collapsed on top of this material (Fig. 18). These were recognizable as tiles/brick and nails. Also at this stage, tegulae and imbrices were mixed with other building



Fig. 18. View of the collapsed roof (from the northeast).  
© Sagalassos Archaeological Research Project.

materials and decorative elements of the tuff/brick piers and walls (rubble, brick, painted stucco fragments and crusta pieces). In the area corresponding with the northern nave, this resulted in a well-preserved roof collapse, consisting of a variety of tegula and imbrex types and brick, which were either still in their collapsed position, though broken, or could still be reconstructed based on fragments found in the same area. In comparison, in the southern half of the main space the tiles/brick was crushed and out of context due to the large building blocks of the west and south walls that would later fall down on top of the roof material. In contrast, in the southwest of the main space, the roof tiles were found in a much more complete state, although they formed a less thick package of tiles than in the centre of the building. This could reflect the collapse of a smaller roof construction.

Even after the 'Prytaneion' had become a ruin, some activities still took place in the main space. In the border zone between the central and the northern naves the collapsed roof tiles were shifted aside up to the level of the 1<sup>st</sup> century CE and Late Antique mosaics and – in the area where these floors were not preserved – of their substrate layers. The area created in this way was bordered in the south with two vertically placed tegula fragments. In this zone, as well as on top of the surrounding collapsed roof tiles, a floor level was formed. Burning traces, presumably caused by firing/cooking, coloured the underlying mosaic and its nucleus black. At the lower level of this feature a concentration of brick dust was collected, which could refer to the production of pink mortar for mosaic construction in an earlier phase.

In addition, two different soil types formed to the north of the compact floor substrate attested some more disturbance in the area. The many pottery sherds and animal bones recovered from this area resulted from activities in this area after the roof collapse. In addition, the burning (cooking?) activities that seem to have taken place affected the layers underneath. Thus, the late floor level that was created on top of the mosaic and its substrate layers became dark coloured.



At a higher level, the occupation layer formed on top of the compact floor substrate and the surrounding layers was associated with irregular small walls or a fence made of rubble and fragmented brick (E-W 'wall': L.: 1.50 m; W.: 0.65 m; H.: 0.24 m.; N-S 'wall': L.: 1.00 m; W.: max. 0.10 m; H.: 0.06 m; Fig. 19). These features suggest that firing/burning took place in this area of the main space after it got out of use. It remains difficult to interpret this evidence for later activities, but possibly operations of salvaging or recycling building material played a role.



Fig. 19. View of the late activity zone with walls or fence (from the northeast). © Sagalassos Archaeological Research Project.

### Phase 7. The Final Collapse of the Building

After these last occupation traces in the main space of the 'Prytaneion', the building further fell apart and several collapse layers, including more building materials of the walls and piers and their related decoration, were formed on top of the roof material and the late



Fig. 20. View of the collapse of the southern and eastern walls of the 'Prytaneion' (from the northwest). © Sagalassos Archaeological Research Project.

floor level. The different phases of the collapse at this stage are illustrated by the south-eastern corner tuff/brick pier and that of the third tuff/brick pier against the south wall. The third pier came down together with the arches it carried, only after a 0.50 m thick layer of collapse had formed on top of the south-east pier that had collapsed already earlier. Similarly, the marble revetment of the north wall fell from the wall in pieces at different moments, resulting in sep-

arate concentrations of crusta fragments along the wall. Finally, these layers were covered by more collapse material from the walls of the 'Prytaneion' itself and of neighbouring buildings, such as the Bouleuterion. While several ashlar of the south and west walls rolled down from the slopes in the south and southwest, a large number of their architectural fragments piled up in the southern and central areas of the building, resulting in twelve stone levels (Fig. 20). The piers of the central nave suffered the most from this collapse and have, consequently, been preserved to a lesser height than the piers against the north and south walls. Some particular objects mixed up with the building materials, including some pieces of statuary, such as a fragment of a (funerary) lion statue (paw), metal objects (e.g. candle holders and the feet of furniture or a wooden chest) and some coins. In the end, the impressive heap of large building blocks was to remain a clear indicator of the importance the building once fulfilled in Roman Imperial and Late Antique Sagalassos.

#### THE 'PRYTANEION' OF SAGALASSOS? THE BUILDING AND ITS CONTINUED USE IN LATE ANTIQUITY

Although literary and epigraphical evidence highlights the importance of the *prytaneion* as institution in the ancient city<sup>40</sup>, thus far only a limited number of *prytaneia* have been identified archaeologically and with certainty in the Greek World and Asia Minor<sup>41</sup>. In Western Anatolia only the identification of the *prytaneia* of Ephesos, Magnesia on the Maeander, Priene and Miletos can be considered as highly probable<sup>42</sup>. As a matter of fact, very little is known about the architectural characteristics of this building type and the extant examples do not conform in this respect. This condition has led to the conclusion that there was no standard plan for the architectural setup of the civic institution of *prytaneion*<sup>43</sup>. Some elements, however, such as a courtyard, a dining/meeting room, a room with hearth and/or subsidiary spaces seem to be re-occurring features<sup>44</sup>.

Despite the lack of written evidence for a certified identification of the building under investigation as Sagalassos' 'Prytaneion', several elements are supporting this proposed function, as a hypothesis. The prominent location of the building on the Upper Agora, immediately to the south of the Bouleuterion and thus in the very heart of the ancient city, and its monumental character, underscored by its size, impressive entrance and opulent decoration, can be considered typical characteristics of *prytaneia*<sup>45</sup>. Moreover, the possible presence of a peristyle courtyard in the main space, framing the 1<sup>st</sup> century CE pavement combining *opus vermiculatum* and *opus tessellatum*, is in line with the porticoed open spaces that were generally part

<sup>40</sup> For a list of epigraphically attested *prytaneia*, see Hansen and Fischer-Hansen 1994: 31-34.

<sup>41</sup> Miller 1978: 93-127; 225-234; Hansen and Fischer-Hansen 1994: 34-37; Schmalz 2006: 33-34; Steskal 2010: 5-6; 223-231.

<sup>42</sup> Steskal 2010: 229.

<sup>43</sup> Hansen and Fischer-Hansen 1994: 37; Gelhorn 2011.

<sup>44</sup> Miller 1978: 30-37; Steskal 2010: 1-3; 5; 230-231.

<sup>45</sup> Miller 1978: 29-30; Kennell 1997: 421; Steskal 2010: 1-2; 5; 230; Gelhorn 2011.

of *prytaneia*<sup>46</sup>. These resembled courtyards in peristyle houses<sup>47</sup>. Furthermore, at least during its Late Antique phases, the building was used for representational dining. This is evidenced by the numerous *sigma* tables of the 5<sup>th</sup>-6<sup>th</sup> century CE and the Michaelitai trays of the 6<sup>th</sup>-7<sup>th</sup> centuries CE. It is an open question whether these Late Antique practices could be seen as a continuation of earlier activities related to the reception and the organisation of banquets for foreign (*xenia*) and local guests (*deipnon*) that are known to have taken place in *prytaneia*<sup>48</sup>. Dining activities have, for instance, also been connected to the probable 5<sup>th</sup> century CE *prytaneion* at Athens<sup>49</sup>.

In general, earlier studies dedicated to the *prytaneion* in the Classical city gave much attention to its Archaic, Classical, Hellenistic and Roman Imperial phases, while hardly any data are available for the 'afterlife' of this building type in Late Antiquity. Following the prohibition of pagan cults by Theodosius I in 391-392 CE, the *prytaneion* lost its function as cult place of Hestia in the late 4<sup>th</sup> century CE<sup>50</sup>. This is reflected in the available archaeological and epigraphical data. For instance, the youngest certain epigraphical evidence for the *prytaneion* of Priene dates to the 3<sup>rd</sup> century CE, attesting that the building was still in use then, while the *prytaneion* of Ephesos was destroyed by an earthquake and subsequently given up in the 4<sup>th</sup> century CE<sup>51</sup>. In the following centuries, the area of the Ephesian *prytaneion* was transformed into an artisanal zone, which extended to the nearby State Agora and remained operational until the middle of the 7<sup>th</sup> century CE<sup>52</sup>. In contrast to the *prytaneia* elsewhere, the building at Sagalassos continued to be important in the Late Antique city as a civic monument. If the building of Sagalassos was the *prytaneion*, at least this case illustrates that *prytaneia* could continue to fulfil a significant role after the 4<sup>th</sup> century CE. It might have continued some of the traditional functions associated with predecessor examples, such as the organisation of representational dinners, which presumably now took place in association with the clerical authorities of the town. In the 5<sup>th</sup>-early 6<sup>th</sup> century CE, guests reclined around plain marble *sigma* tables (Fig. 13), a type of table that was widely distributed in the Late Antique Mediterranean. Material and iconographical evidence shows that, combined with a semi-circular couch (the *stibadion*), the horse-shoe shaped table (*sigma*) became the most frequently used table type in public and private dining contexts from the 3<sup>rd</sup> century CE onwards<sup>53</sup>. The positioning of the guests (generally seven to eight diners) around the table was subject to strict hierarchical rules<sup>54</sup>. The table tops were resting on masonry-built supports, frequently combined with masonry-built *stibadia*<sup>55</sup>, or, alternatively, on wooden supports<sup>56</sup>, as might have been the case in the 'Prytaneion'

<sup>46</sup> Miller 1978: 30; Schmalz 2006; Steskal 2010: 29-32; 211-213 (Ephesos); 228; 231.

<sup>47</sup> Steskal 2010: 231; Gelhorn 2011.

<sup>48</sup> Miller 1978: 4-13; 219-224; Osborne 1981; Steskal 2010: 4-5.

<sup>49</sup> Schmalz 2006: 67.

<sup>50</sup> Steskal 2010: 81.

<sup>51</sup> For Priene, see Rumscheid 1998: 50; Steskal 2010: 228. For Ephesos, see Steskal 2010: 81-83.

<sup>52</sup> Steskal 2010: 83-84.

<sup>53</sup> Morvillez 1996: 125-143.

<sup>54</sup> Cabouret 2008: 202; Malmberg 2012.

<sup>55</sup> Morvillez 1996: 128-130.

<sup>56</sup> E.g. Morvillez 1996: 134-135; Sodini 1997: 485.

of Sagalassos. It is clear that this type of formalised dining underwent changes through time in the setting of Sagalassos. In the later 6<sup>th</sup> and early 7<sup>th</sup> centuries CE the marble tables were no longer in use and dinners were served by means of large ceramic trays, inscribed with texts referring to the Archangel Michael. In this way, at least from the later 6<sup>th</sup> century CE onwards, a close connection between the Church and the 'Prytaneion' was established. Apart from the functional aspects, also a physical connection was created between the 'Prytaneion' and the site of the Bouleuterion, which was transformed into the forecourt of the Bouleuterion-Basilica<sup>57</sup>.

In this way, the usage history of the 'Prytaneion' of Sagalassos illustrates how Roman Imperial public monuments could be physically and functionally reconfigured in accordance to the needs of the Late Antique community. Each epoch in its own way made well-considered use of the facility as well as the prime urban location of the site of the 'Prytaneion', in order to serve some of the most prestigious representational functions on behalf of the civic community.

#### ACKNOWLEDGEMENTS

The 'Prytaneion' of Sagalassos has a long research history. Its exploration was started as part of the Pisidia Survey Project directed by S. Mitchell. The excavation of some of its parts was initiated by M. Waelkens, director of the Sagalassos Archaeological Research project from 1990 until 2013. These activities were supported by the Flemish Ministry for Science Policy, the Federal Government of Belgium, the Research Fund of the University of Leuven and the Research Foundation Flanders. The large-scale excavation of the monument and the study of its architectural elements was directed by J. Poblome, heading the Sagalassos Archaeological Research project since 2013. This part of the research was supported by the Research Fund of the University of Leuven and the Research Foundation Flanders.

We would like to thank Lutgarde Vandeput, Director of the British Institute at Ankara, for having a renewed look to the architectural decoration of the 'Prytaneion' and its chronological implications.

The study of the architectural fragments of the 'Prytaneion' and its in situ remains in 2018 was carried out with the support of the Koç University – Stavros Niarchos Foundation Center for Late Antique and Byzantine Studies (Istanbul), while the research on re-used architectural fragments originating from the Upper Agora was supported by the Koç University – Suna & İnan Kiraç Research Center for Mediterranean Civilizations (Antalya).

The authors would also like to thank the Ministry of Culture and Tourism of the Republic of Turkey, its Kültür Varlıkları ve Müzeler Genel Müdürlüğü and its annual representatives for the excavation permissions, support and appreciated aid during fieldwork campaigns.

<sup>57</sup> Talloen and Poblome 2016: 142-145.



## REFERENCES

- Balmelle, C., M. Blanchard-Lemée, and J. Christophe, 1985 — Le décor géométrique de la mosaïque romaine. Répertoire graphique et descriptif des compositions linéaires et isotropes. Paris: A. et J. Picard.
- Cabouret, B., 2008 — Rites d'hospitalité chez les élites de l'Antiquité tardive. In: J. Leclant, A. Vauchez and M. Sartre (eds.), *Pratiques et discours alimentaires en Méditerranée de l'Antiquité à la Renaissance. Actes du 18<sup>ème</sup> colloque de la Villa Kérylos à Beaulieu-sur-Mer les 4, 5 et 6 octobre 2007. Cahiers de la Villa Kérylos* 19: 187-222. Paris: Académie des Inscriptions et Belles-Lettres.
- Capdetrey L., and C. Hasenohr (eds.), 2013a — Agoranomes et édiles. Institutions des marchés antiques. *Scripta Antiqua* 44: 13-34. Bordeaux: Ausonius Éditions.
- Capdetrey, L., and C. Hasenohr, 2013b — Surveiller, organiser, financer: fonctionnement de l'agoronomia et statut des agoranomes dans le monde égéen. In: L. Capdetrey Laurent and C. Hasenohr (eds.), *Agoranomes et édiles. Institutions des marchés antiques. Scripta Antiqua* 44: 13-34. Bordeaux: Ausonius Éditions.
- Devijver, H. 1996. Local Elite, Equestrians and Senators: A Social History of Roman Sagalassos. *Ancient Society* 27: 105-162.
- Devijver, H. 1993 — The Inscriptions of the Neon-Library of Roman Sagalassos. In: M. Waelkens and J. Poblome (eds.), *Sagalassos II. Report on the Third Excavation Campaign of 1992. Acta Archaeologica Lovaniensia Monographiae* 6, 107-123. Leuven: Leuven University Press.
- Dickenson, C.P., 2017 — On the Agora. The Evolution of a Public Space in Hellenistic and Roman Greece (c. 323 BC-267 AD). *Mnemosyne, Supplements, History and Archaeology of Classical Antiquity* 398, Leyden and Boston: Brill.
- Dunbabin, K.M.D., 1999 — *Mosaics of the Greek and Roman World*. Cambridge: Cambridge University Press.
- E[ck], W., 2000 — Mettius. In: H. Cancik and H. Schneider (eds.), *Der Neue Pauly. Enzyklopädie der Antike. Altertum*. Band 8 Mer-Op, kol. 141-142. Stuttgart/Weimar: Metzler.
- Eich A., and P. Eich, 2017 — Sagalassos – Die Entwicklung einer städtischen Gesellschaft unter römischem Einfluss, ihre Ritter und Senatoren. Eine Momentaufnahme: Ertrag und Perspektiven. In: W. Eck and M. Heil (eds.), *Prosopographie des Römischen Kaiserreichs: Ertrag und Perspektiven. Kolloquium aus Anlass der Vollendung der Prosopographia Imperii Romani*, 187-212. Berlin and Boston: De Gruyter.
- Eich, A., P. Eich, and W. Eck, 2018 — Die Inschriften von Sagalassos (mit Beiträgen von Marc Waelkens). Teil 1. Inschriften griechischer Städte aus Kleinasien 70, 1-19. Bonn: Verlag Dr. Rudolf Habelt.
- Gelhorn, P., 2011 — Das Prytaneion: Bedeutung und Funktion eines griechischen Verwaltungsgebäude. Munich: GRIN Verlag.
- Hansen, M.H., and T. Fischer-Hansen, 1994 — Monumental Political Architecture in Archaic and Classical Greek Poleis. Evidence and Historical Significance. In: D. Whitehead (ed.), *From Political Architecture to Stephanus Byzantius. Sources for the Ancient Greek Polis. Historia Einzelschriften* 87, 23-90. Stuttgart: Franz Steiner Verlag.
- Jacobs, I., and M. Waelkens. 2017 — "Christians Do Not Differ from Other People". The Down-to-Earth Religious Stance of Late Antique Sagalassos (Pisidia). In: W. Amelung (ed.), *Die Christianisierung Kleinasien in der Spätantike. Asia minor Studien* 87, 175-198. Bonn: Dr. Rudolf Habelt.
- Jansen, B., 2016 — 6. Defensive Funktionen. In: S. Müth, P. Schneider, M. Schnelle and P. De Staebler (eds.), *Ancient Fortifications: A Compendium of Theory and Practice*, 159-172. Oxford and Haverton, PA: Oxbow Books.
- Kennell, N.M., 1987 — Where Was Sparta's Prytaneion? *American Journal of Archaeology* 91.3: 421-422.
- Lavan, L., 2013 — The Agorai of Sagalassos in Late Antiquity: An Interpretative Study. In: L. Lavan and M. Mulryan (eds.), *Field Methods and Post Excavation Techniques in Late Antique Archaeology. Late Antique Archaeology* 9: 289-353. Leyden and Boston: Brill.

- Loots, L., M. Waelkens, W. Clarysse, J. Poblome, and G. Huebner, 2000 — A Catalogue of the Tile Stamps Found at Sagalassos. In: M. Waelkens and L. Loots (eds.), *Sagalassos V: Report on the Survey and Excavation Campaigns of 1996 and 1997. Volume 2. Acta Archaeologica Lovaniensia Monographiae 11B*, 685-696. Leuven: Leuven University Press.
- Malmberg, S., 2012 — Banquets, Byzantine. In: R. Bagnall, K. Brodersen, C. Champion, A. Erskine and S.R. Hübner (eds.), *Encyclopaedia of Ancient History, 1035-1036*. Oxford and Carlton: Blackwell.
- Merkelbach, R., 1980 — Der Kult der Hestia im Prytaneion der griechischen Städte. *Zeitschrift für Papyrologie und Epigraphik* 37: 77-92.
- Migeotte, L., 2005 — Les pouvoirs des agoranomes dans les cités grecques. In: R.W. Wallace and M. Gagarin (eds.), *Symposium 2001. Vorträge zur griechischen und hellenistischen Rechtsgeschichte* (Evanston, Illinois, 5.-8. September 2001), 287-301. Vienna: Österreichische Akademie der Wissenschaften.
- Miller, S.G., 1978 — The Prytaneion: Its Form and Function. Berkeley, Los Angeles and London: University of California Press.
- Mitchell, S., and M. Waelkens, 1988 — Cremna and Sagalassos 1987. *Anatolian Studies* 38: 53-65.
- Morvillez, E., 1996 — Sur les installations de lits de table en sigma dans l'architecture domestique du Haut et du Bas-Empire. *Pallas* 44: 119-158.
- Osborne, M.J., 1981 — Entertainment in the Prytaneion at Athens. *Zeitschrift für Papyrologie und Epigraphik* 41: 153-170.
- Poblome, J., 1999 — Sagalassos Red Slip Ware; Typology and Chronology. Studies in Eastern Mediterranean Archaeology 2. Turnhout: Brepols Publishers.
- Raynaud, M.P., 2009 — Corpus of The Mosaics of Turkey. Volume I: Lycia. Xanthos, Part 1. The East Basilica. Istanbul: Uludağ Üniversitesi Mozaik Arastirmalari Merkezi.
- Rémy, B., 1988 — Les fastes sénatoriaux des provinces romaines d'Anatolie au Haut-Empire (31 avant J.-C.-284 après J.-C.). Pont-Bithynie, Galatie, Cappadoce, Lycie-Pamphylie et Cilicie. Paris: Éditions Recherche sur les civilisations.
- Rumscheid, F., 1998 — Priene. Führer durch das 'Pompeji Kleinasien'. Istanbul: Ege Yayınları.
- Scheibelreiter, V., 2007, Mosaics in Roman and Late Antique Western Asia Minor. In M. Şahin (ed.), III. Uluslararası Türkiye Mozaik Korpusu Sempozyumu Bildirileri/Proceedings of the 3<sup>rd</sup> International Symposium of the Mosaics of Turkey, Bursa, 8-10 Haziran/June 2006, 63-78. Bursa: Uludağ Üniversitesi.
- Scheibelreiter-Gail, V., 2011 — Die Mosaiken Westkleinasiens. Tessellate des 2. Jahrhunderts v. Chr. bis Anfang des 7. Jahrhunderts n. Chr. Sonderschriften des Österreichischen Archäologischen Institutes 46, Vienna: Phoibos Verlag.
- Schmalz, G.C.R., 2006 — The Athenian Prytaneion Discovered? *Hesperia* 75.1: 33-81.
- Sodini J.-P., 1997 — Habitat de l'Antiquité tardive (2). *Topoi* 7.2: 435-577.
- Steskal, M., 2010, Das Prytaneion in Ephesos. Forschungen in Ephesos 9/4, Vienna: Austrian Academy of Sciences Press.
- Talloon, P., 2011 — From Pagan to Christian: Religious Iconography in Material Culture from Sagalassos. In: L. Lavan and M. Mulryan (eds.), *The Archaeology of Late Antique 'Paganism'*. *Late Antique Archaeology* 7: 575-607. Leyden and Boston: Brill.
- Talloon, P., D. Daems, B. Beaujean, and J. Poblome, 2015 — Sagalassos Yukarı Agora'da 2014 yılı kontrol kazıları/The 2014 Control Excavations on the Upper Agora of Sagalassos. *ANMED* 13: 99-107.
- Talloon, P., M. Albayrak, and J. Poblome, 2016 — Sagalassos Yukarı Agora'da 2015 yılı kontrol kazıları/The 2015 Control Excavations on the Upper Agora of Sagalassos. *ANMED* 14: 109-118.
- Talloon, P., and J. Poblome, 2016 — The 2014 and 2015 Control Excavations on and around the Upper Agora of Sagalassos. The structural remains and general phasing. *Anatolica* 42: 111-150.
- Uytterhoeven, I., 2018 — 2016 Yılı Sagalassos Kazıları – Prytaneion Kazıları. In: J. Poblome, E. Torun, I. Uytterhoeven, B. Beaujean, J. Claeys, S. Cleymans, S. Ercan, P. Hacıgüzeller, P. Talloon, P. Bes, H. Uleners, R. Willer, D. Daems, and K. Van De Vijver, *Sagalassos'ta 2016 Sezonu Kazılar, Restorasyon Çalışmaları ve Malzeme Etütleri. Kazı Sonuçları Toplantısı* 39.1: 212-214; 230 Figs. 2-3.

- Uytterhoeven, I., and A. Miles, 2016 — Yukarı Agora'nın Güneydoğu Köşesinde Kazılar. In: J. Poblome *et al.*, Sagalassos'ta 2014 Yılı Kazı ve Restorasyon Çalışmaları. *Kazı Sonuçları Toplantısı* 37.3: 86-88.
- Uytterhoeven, I., M. Waelkens, R. Van Beeumen, E. Torun, G. Üner, and J. Poblome, 2011 — De Bovenste Agora. Van toplocatie voor stedelijke zelfrepresentatie tot ambachtelijke zone. In: M. Waelkens and the Sagalassos Team (eds.), Sagalassos – Jaarboek 2010. De vroeg- tot midden-Byzantijnse periode (450-1250 n. Chr.). Het jaarverslag van de campagne van 2010, 26-53. Leuven: Peeters Publishers.
- Uytterhoeven, I., M. Waelkens, and E. Torun, 2012 — 4. Yukarı Agora kazıları. 4.2. Alanın Güneybatı Köşesi. In: M. Waelkens *et al.*, Sagalassos 2010 yılı kazı ve restorasyon çalışmaları. *Kazı Sonuçları Toplantısı* 33.3: 239-265.
- Uytterhoeven, I., 2019 — 2017 Yılı Sagalassos Kazıları – Prytaneion Kazıları. In: J. Poblome *et al.*, Sagalassos'ta 2017 Yılı Kazılar, Restorasyon Çalışmaları ve Malzeme Etütleri. *Kazı Sonuçları Toplantısı* 40.2: 486-488.
- Uytterhoeven, I., and J. Poblome, in preparation — In Honour of the 'City's' Patron and Benefactor'. C. Trebonius Proculus Mettius Modestus, governor of Lycia et Pamphylia, at Sagalassos.
- Vandeput, L., 1993 — Honour where Honour is Due. Regional Features on Honorific Monuments of Pisidia? *Anatolian Studies* 43: 193-202.
- Vandeput, L., 1997 — The Architectural Decoration in Roman Asia Minor. Sagalassos: A Case Study. Studies in Eastern Mediterranean Archaeology 1, Turnhout: Brepols Publishers.
- Waelkens, M., 1992 — Die neuen Forschungen (1985-1989) und die belgischen Ausgrabungen (1990-1991) in Sagalassos. In: E. Schwertheim (ed.), Forschungen in Pisidien. Asia Minor Studien 6, 43-60. Bonn: Dr. Rudolf Habelt.
- Waelkens, M., 1993 — Sagalassos. History and Archaeology. In: M. Waelkens (ed.), Sagalassos I. First General Report on the Survey (1986-1989) and Excavations (1990-1991). Acta Archaeologica Lovaniensia Monographiae 5, 37-82. Leuven: Leuven University Press.
- Waelkens, M., 2002 — Romanization in the East. A case study: Sagalassos and Pisidia (SW Turkey). *Istanbul Mitteilungen* 52: 311-368.
- Waelkens, M., 2015a — The Emperor Cult at Sagalassos (Anatolia) from Augustus to Hadrian. In: P. Gros, E. Marin, and M. Zink (eds.), Auguste, son époque et l'Augusteum de Narona, 93-128. Paris: Académie des inscriptions et belles-lettres.
- Waelkens, M., 2015b — The Library of T. Flavius Severianus Neon at Sagalassos. In: H. Metin, B.A. Polat-Becks, R. Becks and M. Firat (eds.), Pisidian papers. Essays in Honour of H.A. Ekinci, 215-259. Istanbul: Ege Yayınları.
- Waelkens, M., 2018a — Geschichtlicher Überblick. In: A. Eich, P. Eich, and W. Eck, Die Inschriften von Sagalassos (mit Beiträgen von Marc Waelkens). Teil 1. Inschriften griechischer Städte aus Kleinasien 70, 1-19. Bonn: Verlag Dr. Rudolf Habelt.
- Waelkens, M., 2018b — Sagalassos, Archaeology of. In: C. Smith (ed.), Encyclopedia of Global Archaeology, 1-32. Berlin: Springer.
- Waelkens, M., and J. Poblome, 2011 — The Metamorphosis of a City. Augustus and the First Century. In: M. Waelkens, J. Poblome and P. de Rynck (eds.), Sagalassos. City of Dreams, 57-97. Ghent: Openbaar Kunstbezit Vlaanderen.
- Waelkens, M., J. Poblome, I. Uytterhoeven, H. Uleners, R. Willet, and A. Van Oyen, 2010 — V.3.5. Een nieuw 'officieel' gebouw (B 3) op de Bovenste Agora. In: M. Waelkens and the Sagalassos Team (eds.), Sagalassos – Jaarboek 2009. De Late Oudheid (ca. 200-450/455 n. Chr.). Het jaarverslag van de campagne van 2009, 300-302. Leuven: Peeters Publishers.

## THE KONYA REGIONAL ARCHAEOLOGICAL SURVEY PROJECT. The 2017 and 2018 Field Seasons

*Michele Massa, Christoph Bachhuber, Fatma Şahin, Neyir Bostancı-Kolankaya, Yusuf Tuna\**

### **Abstract**

*The Konya Regional Archaeological Survey Project (KRASP) is an interdisciplinary, multi-scale research programme in south-central Turkey. KRASP aims at integrating new fieldwork with the substantial research corpus already available for the region, in order to provide a synthetic understanding of archaeological and palaeoenvironmental dynamics in the plain and surrounding highlands. This includes a diachronic assessment of human-environment interactions in different ecological niches, of sedentism, urbanism and political consolidation, and of related phenomena such as modifications to landscapes, farming production, and pastoral mobility. KRASP's fieldwork focuses on three discrete ecological zones: the cultivated alluvium, the steppe margin, and the highland margin.*

*This paper presents the methodologies, aims and preliminary results of KRASP's 2017 and 2018 fieldwork seasons in the eastern section of the Konya Plain. Among the most significant results, our team uncovered evidence in the steppe for numerous temporary sites contemporary with Boncuklu Höyük and Çatalhöyük pre-XII, which provide a broader context to understand the process of Neolithisation of the region. It also dated the appearance of the first large centres (ca. 20 ha) in the region at the Chalcolithic-Early Bronze Age transition, and revealed the existence of a territorial defence system around the plain already in the early 2<sup>nd</sup> millennium BCE. Lastly, KRASP has identified a horizon of expanding sedentary sites (höyük) into the steppe during the late 2<sup>nd</sup> and early 1<sup>st</sup> millennia BCE, probably associated with a substantial irrigation project and possibly prompted by the rise of a large urban centre in the Çarşamba delta.*

### INTRODUCTION

The Konya Regional Archaeological Survey Project (KRASP) is an interdisciplinary, multi-scalar research program initiated in 2016.<sup>1</sup> Its main aim is to integrate a new survey project with published survey, excavation and palaeoenvironmental datasets to arrive at a holistic understanding of the prehistoric and early historic archaeology of the Konya Plain, from the beginning of the Holocene up to the end of the Iron Age. The fieldwork component of KRASP, and the primary focus of this report, was initiated in the summer of 2017 with a pedestrian survey in the Çumra and Karatay districts in the eastern region of the Konya Plain. The 2017 and 2018 field seasons have prioritized the 'marginal' landscapes of this survey area (steppe and high-

\* Michele Massa: British Institute at Ankara; Christoph Bachhuber: University of Oxford; Fatma Şahin: Çukurova University; Neyir Bostancı-Kolankaya: Hacettepe University; Yusuf Tuna: Hacettepe University.

<sup>1</sup> KRASP is co-directed by Michele Massa and Christoph Bachhuber in collaboration with Fatma Şahin. The fieldwork took place between June 16<sup>th</sup>-July 11<sup>th</sup> 2017 and between June 4<sup>th</sup>-July 6<sup>th</sup> 2018.



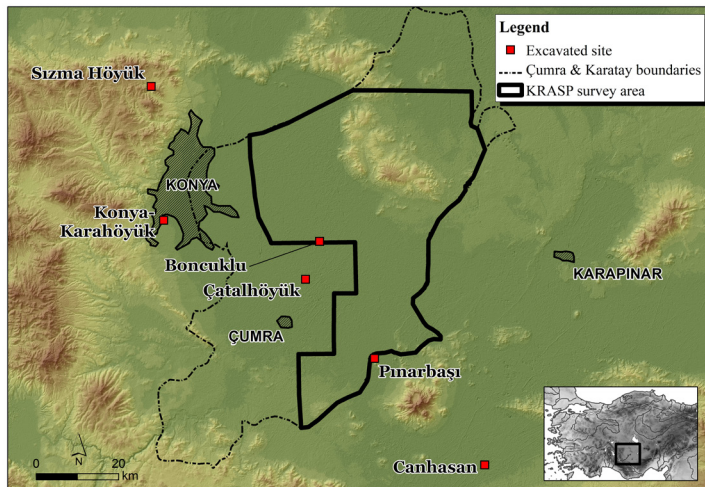


Fig. 1. Location of the study area for the Konya Regional Archaeological Survey Project (KRASP).

lands, see below), which have been largely neglected by earlier research on the Konya Plain (Fig. 1). Here we discuss the preliminary results from KRASP's 2017 and 2018 seasons.

KRASP has set out to achieve a number of goals that align with *longue durée* approaches to archaeological landscapes, for example as developed in Mediterranean archaeology (see Bevan and Conolly 2013) and the landscape archaeology of the ancient Near East (e.g. Casana

2014; Ur *et al.* 2013; Wilkinson 2003). These include a diachronic outline of human-environment interactions in different ecological niches, and a related assessment of the diachronic formation of archaeological landscapes. We are particularly interested in the relationship between the hydrological landscape of the Konya Plain (including irrigation strategies) and settlement, subsistence and other human activity in different historical periods. KRASP is also interested in how and why and with what consequences networks of communication formed within and beyond the landscapes of the Konya Plain, for example as mediated by networks of production and exchange, mobility related to pastoral transhumance, and/or political consolidation. The last aim of KRASP discussed in this report is different from the above because it is concerned with the archaeological present. This is similarly a study of landscapes, but addresses modern impacts on archaeological landscapes by the people who live in and farm the Konya Plain today.

## THE SURVEY AREA

The Konya Plain is an endorheic basin traversed by a number of watercourses including principally the Çarşamba and May rivers. Prior to intensive irrigation in the early 20th century CE (Altuntaş 2000; Bildirici 2000), the basin was also comprised of marshes and shallow lakes. However, few period-specific historical water bodies (with perennial standing water) have been identified with any confidence, including the Yarma and the Hotamış Lakes (Karabıykoğlu and Kuzucuoğlu 1998; Roberts 1980). To what extent and when standing water existed in the Konya Plain is a primary research question for KRASP. For example, there is reason to suggest that much of the standing water in the Hotamış lake basin today may have been originally formed by the dumping of excess irrigation water from the modern canal system; but this does not exclude the possibility of a large early Holocene lake in the Hotamış basin (Roberts 1990).

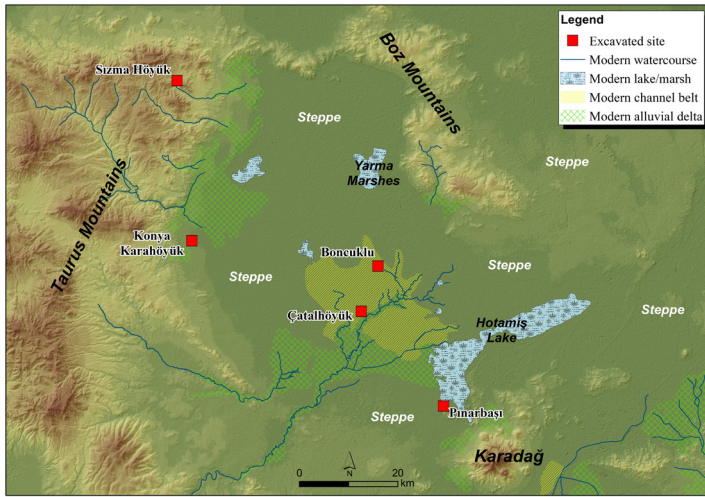


Fig. 2. The major ecological zones in the Konya Plain: endorheic river deltas, steppe and highlands.

The fieldwork component is focused on a much smaller region (ca. 2.200 km<sup>2</sup>) that straddles the intensively researched archaeological landscapes of the alluvium, and the higher elevation and more arid zones of the steppe and highlands – or ‘the margin’ (Fig. 2). The survey study area extends east, south-east and north-east of the Çarşamba alluvial fan, encompassing the eastern edge of the cultivated zone, the arch of the Boz Mountains and the steppe zone that separates the two.

There are two main reasons the margin appeals to us. First, there has been far less archaeological focus here when compared to the cultivated alluvium. Second, by defining discrete ecological niches in the survey area, we can begin to address environmentally-mediated human activity and the relationship between the margin and the alluvium in different periods. Ultimately, we aim to shed light on historically-contingent settlement and land management in the margin and different motivations to interact with this landscape.

The river deltas (prominently the May and Çarşamba) and the lacustrine environment of the Hotamış Lake define the alluvium, the first of three main ecozones of the region (Fig. 2). This ecozone has been cultivated since the Neolithic and remains by far the most thoroughly investigated in the region. Long-running excavations have been conducted at the mound-ed sites at Çatalhöyük (Neolithic and Early Chalcolithic, Hodder 2005, 2006, 2013, 2014; Mellaart 1967), Boncuklu Höyük (Aceramic Neolithic, Baird *et al.* 2012, 2016; Fletcher *et al.* 2017), and Karahöyük-Konya (Early and Middle Bronze Age, Alp 1961, 1968, 1973). In addition, the salvage excavation at Pınarbaşı targeted a multi-period rock shelter and open-air site on the southern shore of the Hotamış Lake, at the interface between the alluvium and the margins (Baird 2007; Baird *et al.* 2011, 2013; Fairbairn *et al.* 2014; Watkins 1995, 1998). This ecozone has further attracted more than 60 years of regional surveys including those of Douglas Baird (1995, 1996a, 1996b 1997, 1998, 1999, 2000, 2001, 2002a, 2002b, 2004, 2006, 2010), Hasan Bahar (1999, 2002, 2005, 2007, 2010, 2011, 2014; Bahar and Koçak 2004; Bahar and Küçükbezi 2012), Sachihito Omura (2000, 2001, 2002), Semih Güneri (1987, 1988, 1989, 1990), David French (1966, 1970), Ian Todd (1966) and James Mellaart (1954, 1955, 1958, 1961, 1963). Overwhelmingly, the site recording strategies of these previous surveys have focused on high visibility settlement mounds. Also, most of these surveys and excavations have had a prehistoric bias. It is worth emphasizing how little research has been undertaken on settlements that post-date the Early Chalcolithic period in the Konya Plain, including the

Bronze Age settlement mound at Karahöyük-Konya where relatively little has been published after several decades of excavations.

The steppe, the second ecozone of the Konya Plain, has attracted relatively little research attention. Following the end of the middle Holocene (the so-called 4.2 ka event in particular, ca. 2200-1900 BC), central Anatolia entered a period of progressive aridification and diminishing rainfall (Roberts *et al.* 2011). The most pronounced impact on the plain would have been on those regions removed from the Çarşamba and May river deltas. At present, average yearly rainfall is around 250 mm/year at the centre of the plain, but periodically average yearly rainfall drops below the 250 mm/year lower limit for rainfed agriculture (Türkeş 1996: Table II). From the later Holocene onwards, large-scale settlement in the margin was only possible in the piedmont of the Taurus and Boz Mountains at sites with access to perennial springs, near the lakes, or through the development of extensive irrigation networks (see e.g. Baird 2004 for possible evidence of Late Antique irrigation channels in the steppe).

Lastly, the third ecozone includes the highlands represented by the Boz Mountains to the north and east up to the Karadağ volcanic complex. Previous research in this region has focused mostly on the inscriptions of the Iron Age ‘Neo-Hittite’ rock monuments at Kızıldağ and Karadağ (for archaeological survey see Bahar 1999; Karauguz *et al.* 2002; Şerifoğlu *et al.* 2018; for epigraphic and philological studies see Hawkins 2000), and to a lesser extent on hilltop forts (Bahar and Koçak 2004; Karauguz and Kunt 2004). Prior to KRASP there has been virtually no attempt to relate these monumental and defensive features to wider patterns of settlement and land use in the Konya Plain.

Site type	Satellite imagery analysis	DEM analysis	Topographic maps analysis	Geological map analysis	Car-based survey	Canal-walking	Pedestrian survey	Local informants
Mound sites ( <i>höyük</i> )	***	***	***	-	***	**	-	***
Fortified hilltops	***	-	*	-	*	-	-	*
Tumuli	***	*	-	-	**	-	-	*
Flat/slope settlements	-	-	-	-	-	**	***	-
Ancient roads	**	-	-	-	-	-	-	-
Standing buildings	*	-	*	-	**	-	**	-
Spolia	-	-	-	-	***	-	**	*
Flat necropoleis	**	-	-	-	-	-	**	*
Rock-cut necropoleis	-	-	-	-	***	-	**	*
Ancient quarries	-	-	*	**	**	-	**	-
Rock shelters/caves	-	-	-	*	**	-	*	**
Prehistoric artefact scatters	*	-	-	**	-	-	***	-
Palaeo-channels	***	*	-	*	-	-	-	-

Table 1. Site detection strategies used in KRASP, with an assessment of their effectiveness for each site type. “-” not effective, “\*” marginally effective, “\*\*” effective, “\*\*\*” very effective. NB: Flat necropoleis can be easily detected when they have been looted, i.e. the pits are clearly visible from satellite imagery.

## SURVEY METHODOLOGIES

Many of KRASP's fieldwork methodologies were pioneered by the Konya Survey Project led by Douglas Baird (see Baird 1996a; 1996b; 1997; 1998; 1999; 2000; 2001; 2002), in a region directly adjacent to the west of the KRASP fieldwork area. Our site detection strategies are multiple and are being implemented to identify the widest possible range of site types (Table 1). These include the analysis of satellite imagery (Google Earth, CORONA and GAMBIT) and of 10 m-resolution Digital Elevation Models to identify höyük sites, tumuli, forts, looted areas, roads, as well as features from ancient environmental landscapes (e.g. palaeolakes, palaeochannels, beach remnants). We are also using topographic maps to identify the most prominent sites like settlement mounds, forts or caravanserais. On the ground methodologies include extensive car-based survey (for "roaming the landscape", see recently Düring and Glatz 2015), to identify mounded sites, tumuli, reused architectural elements (*spolia*), caves, hilltop sites, rock-cut graves and quarries. Pedestrian survey methods include walking along irrigation canals to identify archaeological materials from buried sites in canal spoil heaps (cf. Baird 1996b: 44), intensive survey in a grid on a single archaeological feature (i.e. a settlement mound), and less systematic sampling collections on a single archaeological feature, or across a larger area between known sites. We have also relied on local knowledge to identify archaeological sites that are otherwise invisible to the methodologies above.

Regarding the dating of survey materials, we currently rely on published ceramic studies from excavated sites in the Konya Plain and the wider region to provide a preliminary – albeit coarse – chronological assessment of site occupation. This works well with the Epipalaeolithic-Early Chalcolithic sequence, well represented by the material assemblages from sites adjacent to KRASP's study area like Pınarbaşı (Baird 2012; Baird *et al.* 2013), Boncuklu (Baird *et al.* 2012), Çatalhöyük (Conolly 1999; Last 2005; Özdol 2012; Yalman *et al.* 2013) and Canhasan (Ataman 1988; French 2005). However, the dearth of well-published stratified contexts for the later prehistoric and historic periods hinders a fuller understanding of material chrono-typological developments after the end of Çatalhöyük West. For instance, we are currently struggling to characterise the assemblages of the Middle Chalcolithic period, whose only known fossil guide is the painted pottery with red-on-cream lattice motifs found in Can Hasan 2A (cf. Baird 2006: 62). We can still cannot distinguish with confidence other non-painted wares from this phase, nor provide a chronological span for the period.

Similarly, while we can easily identify early and mid-third millennium BCE materials thanks to extensive parallels with sites in Afyon and the Lakes Region, the late Early Bronze Age materials are more difficult to characterise. So far we have not encountered typical EB III forms like tankards, depa cups, bell cups and A1/A2 plates that are so well-represented in western Anatolia and the northern part of the central plateau (e.g. Efe and Türkteki 2011; Şahoğlu 2014). In addition, while the introduction of the potter's wheel in central Anatolia can be dated to around 2500-2400 BCE – e.g. at Acemhöyük level X (Kamış 2017), Kültepe level 14 (Ezer 2014) and Küllioba level IIIC (Türkteki 2013) – we have found very little wheel-made pottery clearly attributable to the EB III. This is particularly striking because at least during the EB IIIB (the so-called *Übergangsperiode*), virtually all excavated sites in western and central Anatolia yield some wheelmade pottery (Massa 2016: 146-156). Another phase poorly defined by ceramic assemblages is the interface between LBA and Early Iron Age, which would be important to understand the socio-political effects of the collapse of the Hittite Empire in



the Konya Plain. In 2016, we have started a collaboration with several pottery specialists to improve the chronological characterisation of our finds, expanding our analysis also to the assemblages collected by James Mellaart and David French, currently stored at the British Institute at Ankara.

#### PRELIMINARY RESULTS FROM THE 2017 AND 2018 FIELD SEASONS

In our first two field seasons we recorded 98 archaeological sites, just over half of them new discoveries (Fig. 3, Table 2). In addition to mounded settlements in the alluvium, we investigated a wide range of site types in the steppe and highland margin including flat settlements, mortuary monuments (mostly tumuli and rock-cut tombs), fortified hilltops, quarries, rock shelters, concentrations of *spolia*, and pottery scatters. Although detailed material studies are ongoing, we are ready to make a few general observations. Since the Turkish Ministry of Culture and Tourism gave us the permission to study only the archaeological materials pertaining to the period between the Neolithic and the Iron Age, sites that only have phases outside this chronological range will not be discussed.

#### The cultivated alluvium

Survey in the eastern and northern fringes of the Çarşamba river delta has mostly focused on mounded settlements, because post-Ice Age alluvial sediments and extensive landscape remodelling (cf. Ayala *et al.* 2017; Boyer *et al.* 2006) have inhibited the identification of other site types. Currently, the earliest evidence for human occupation in the area comes from isolated Aceramic Neolithic lithic finds from Büyük Aşlama Höyük (17/48), Ali Höyük (17/52) and Kuruhöyük (18/78), roughly synchronous with Boncuklu Höyük and Çatalhöyük pre-XII (Figs. 4.3, 4.5). Together with Aceramic Neolithic arrowheads from Göktomek Höyük (17/57) and Göçü Höyük (18/64) in the steppe, these stray finds are intriguing because they have been recovered from mounds with mostly Bronze and Iron Age occupation. Since we are dealing with survey materials, we do not know the primary context of origin of these artefacts and therefore we cannot unequivocally correlate them with the höyük themselves. This notwithstanding, it can be observed that at least seven other Aceramic Neolithic assemblages within mounded settlements were recorded by Baird in his survey (2006: 60-66, Table 5.1). If we consider the höyük formation process as essentially connected with sedentary communities, these isolated finds suggest the existence of farming settlements that were contemporary with Boncuklu Höyük in the ninth and early eighth millennia BCE, thus in the early stages of the Neolithisation of the Konya Plain.

Given this wealth of evidence for the earliest Holocene, it is all the more striking that – with the exception of few isolated lithic finds – we have so far not been able to identify a Pottery Neolithic settlement contemporary with the main Çatalhöyük East sequence. Baird had already noted this trend for the area within the Çarşamba delta, and concluded that Çatalhöyük would have been the only substantial sedentary site in the Konya Plain (2006: 66; 2010). The next KRASP fieldwork seasons will be dedicated to shed light on this observation and to determine whether the scarcity of later Neolithic sites represents a real pattern or it is related to archaeological invisibility.

Evidence for Chalcolithic occupation is more frequent, but appears to be constrained within the core of the Çarşamba delta. The most coherent Chalcolithic assemblage is from Musluk Höyük (17/80), which is a small (ca. 100 m in diameter) and relatively flat mound (rising 1.5 m), located a few hundred metres west of the Türkmen-Karahöyük megasite (17/02). The site was already known to James Mellaart (with the name “Kara-Höyük South”, Mellaart 1961: 177-181, fig. 1) and yielded Early Chalcolithic pottery exclusively (Figs. 5.3-5.5). KRASP has recovered Early/Middle and Late Chalcolithic sherds from Samih Höyük (17/21, Figs. 5.1-5.2, 6.1-6.2, 6.4-6.5, 6.7-6.9) and Late Chalcolithic pottery from Sarlak Höyük (18/79, Figs. 5.6-5.7), both already recorded by Mellaart (1963: 203, 207).

Samih Höyük is a large (ca. 18 ha) settlement mound that rises over 16 metres above the plain. Its presently ill-defined lower settlement has been heavily disturbed by a Late Ottoman potassium nitrate manufacture for gunpowder. The maximal spatial extent of the site appears to have been during the late fourth and mid third millennia BCE (Figs. 7.3-7.5, 7.8, 7.10, 8.1-8.6, 8.8). We noted a preponderance of Metallic Wares on the surface including a nearly intact jug that we recovered from a looters’ pit (Fig. 8.6), and no wheel-made pottery. Ashes and burnt mudbrick on the surface and in the top layers of the looters’ pits point to a violent end for the EB II settlement, with an ephemeral reoccupation only during the Iron Age.

Similarly, KRASP’s intensive survey at Sarlak Höyük (comprised of a 6 ha mound with a 19 ha terrace) in the 2018 field season revealed the spatial extent of occupation during different periods. Between the late fourth and early third millennia BC, the site reached an area of ca. 20 ha, while the maximal occupation at 25 ha occurred during the mid-third millennium BCE. As with Samih Höyük, the end of this EB II phase is marked by the massive conflagration visible in the section of a looting pit. A re-occupation during the EB III and then in the Iron Age-Hellenistic periods was restricted to the mound itself.

Other medium-sized settlement mounds at Emirler Höyük (17/34, 5 ha, 14 m high) and Kuruhöyük (18/78, 7 ha, 7 m high) show comparable evidence for a violent destruction and abandonment in the EB II period. Mellaart had already observed a widespread pattern of destruction and abandonment of EB II sites across the Konya Plain, and famously interpreted this as evidence for an invasion of Indo-Europeans (Luwians) into this region (Mellaart 1963: 210, 236, fig. 5). There are several reasons to doubt such an historical scenario (see Bachhuber and Massa 2016; also Bachhuber 2013), but it is certainly worth exploring whether the destruction and abandonment of EB II settlements in the KRASP survey area relates to processes of nucleation and polity formation, or internal social conflicts. It is nevertheless intriguing that typical EB III pottery has been elusive in the KRASP survey area after two seasons of fieldwork. Like with the Pottery Neolithic settlement pattern gap above, KRASP is attempting to determine whether these lacunae reflect biases in archaeological recovery, regionally specific pottery trends, or if perhaps they reflect real changes in settlement through time.

During the early second millennium BCE and in contemporary with similar political structures within the Kızılırmak bend, the Konya Plain seems to have witnessed the emergence of a single territorial polity. A strong evidence for this phenomenon is the Konya-Karahöyük’s palatial complex and its associated sealing archive, one of the earliest examples of centralised administrative buildings in central Anatolia (Alp 1968). Another important clue is brought by a string of fortified hilltops surrounding the plain on all sides, suggesting an attempt to bring

Site no.	Site name	Site type										Dating												
		Höyük	Slope settlement	Flat settlement	Rock shelter	Necropolis	Religious building	Spolia	Tumulus	Fortified hilltop	Stone quarry	Artefact scatter	Aceramic Neolithic	Neolithic	Ech	Mid/Late Ch	EBA	MBA	LBA	Iron Age	Hellenistic	Roman	Medieval	Ottoman
17/001	Alanlı Höyük	x														?	x			x			x	
17/002	Türkmenkarahöyük	x															x	x	x	x	x	x		
17/007	Karatepe		x														x	x					x	
17/011	Sürgüç Höyük	x						x								x		?	?	x	x	x	x	x
17/012	Kilise-tepe Höyük	x				x													x	x	x	x	x	x
17/013	Bilçeli Höyük	x																	?	?	x	x	x	
17/015	Kane Kalesi		x							x								?	x	x	x	?		
17/016	Beşgöl Ören Mevkii			x																x	x	x	x	?
17/018	Savatra (Soatra) Höyük	x															x		x	x	x	x	x	
17/019	Koçluk Tepe						x					x	x										x	
17/020	Bostan Höyük	x																	x	x			x	
17/021	Samih Höyük	x														x	x			x			x	x
17/022	Akarca rock shelters				x							x				x	x						x	
17/025	Akbaş Kalesi									x										x		x	x	
17/026	Sütçehoyüğü	x				x	x						x							x	x		x	
17/027	Cüneyt Tepe quarry			x						x			x							?	?			
17/028	Üçkuyu Yaylası Höyük	x																?	x	x	x	x	x	x
17/029	Gıyan Höyük	x																	?	x	x	x	x	
17/030	Hamam Höyük	x																		x	x	x		x
17/031	Turfalı Höyük	x																		x	x	x	x	
17/032	Çatal Höyük II	x																	x	x	x	x	x	
17/033	Gaflet Höyük	x																x	x	x	x	x		
17/034	Emirler Höyük	x														x	x	x						
17/035	Höyükli Yayla Höyüğü	x				x													?	x	?			
17/037	İnliadağ Yerleşme			x						?										x	x	x		x
17/045	Bayat Höyük	x																		x	x			
17/048	Büyük Aşlama Höyük	x										x					x	x	x					
17/049	Eşek Tepesi Höyüğü	x															x	x						
17/052	Ali Höyük	x										x				?	x	x					x	
17/054	Bozdağ Watchtower									x										x				
17/055	Kınık Tepe Kalesi									x								x		x			x	
17/056	Kınık Yerleşmesi			x																x		x	x	
17/057	Göktömek Höyük	x										x						x	x	x				
18/058	Eşek Tömeği Höyük	x																		x	x			
18/059	Zencirli Han Höyük	x						x											?	x	x	?	x	x
18/061	Ortakonak Karahöyük	x						x												?	x		x	
18/063	Karakaya Höyük	x				x		x										x		?	x			
18/065	Göçü Höyük	x										x								?	x			
18/071	Kocabel Höyük	x																		x	x	x		
18/072	Kar Tepe Höyüğü	x											x					x	x	x	x			
18/073	Çerge (Bağlar) Höyüğü	x															x	x						
18/074	Sincikaşı Höyük	x																		x	x			
18/075	Lille (İnli) Höyük	x														x	x	x	x	x				
18/076	Taşgöl Mezarlık Höyüğü (Üçhöyük III)	x																x	x	x			x	
18/077	Üçhöyük Mezarlık Höyüğü (Üçhöyük I)	x																x	x	x	x	x	x	

Table 2. Sites surveyed in the KRASP 2017 and 2018 seasons. Only prehistoric sites with finds from the Iron Age and earlier (pre-Hellenistic) are included in this publication.

Site no.	Site name	Site type											Dating											
		Höyük	Slope settlement	Flat settlement	Rock shelter	Necropolis	Religious building	Spolia	Tumulus	Fortified hilltop	Stone quarry	Artefact scatter	Aceramic Neolithic	Neolithic	Ech	Mid/Late Ch	EBA	MBA	LBA	Iron Age	Hellenistic	Roman	Medieval	Ottoman
18/078	Kuruhöyük (Üçhöyük II)	x										x			x	x								
18/079	Sarlak Höyük	x													x	x			x					
18/080	Musluk Höyük (Kara-Hüyük South)	x												x										
18/081	Kesikler Höyük	x																		x	x			
18/082	Türkmenkarahöyük II	x																x	x				x	
18/083	Türkmenkarahöyük III	x																	x	x	x		x	
18/084	Türkmenkarahöyük IV	x							?									x	x		?			
18/085	Türkmenkarahöyük V	x																	x	x				
18/086	Türkmenkarahöyük VI	x															x	x	x					
18/087	Beşgül		x								x	x				x	x	x	x					
18/088	Kemçik Höyük	x																		x	x		x	
18/094	Küllü Höyük	x																x	x					
18/095	Tilki Tömeği Höyük	x																	x	x	?			
18/096	Köseli Höyüğü	x													x	x								
18/097	Kekrekaşı Höyük	x																	x	x			x	
18/098	Acıkuyu (Jill) Höyük	x																	x				x	

Table 2 (ctd.). Sites surveyed in the KRASP 2017 and 2018 seasons. Only prehistoric sites with finds from the Iron Age and earlier (pre-Hellenistic) are included in this publication.

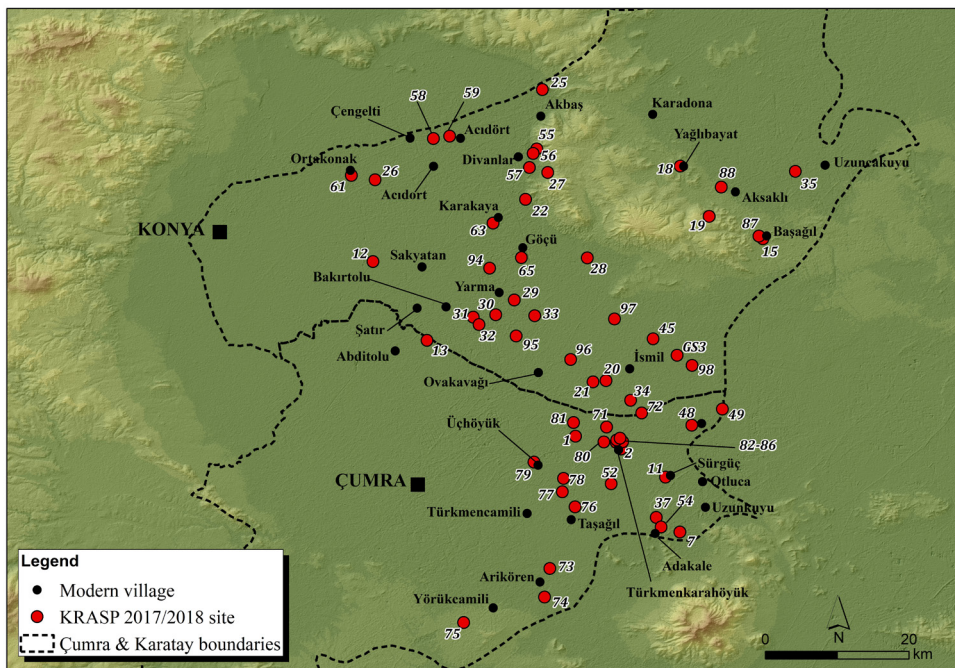


Fig. 3. Sites surveyed in the KRASP 2017 and 2018 seasons.



the whole area under direct military control (see more below). In addition, in the eastern section of the Konya Plain at least two large centres clearly emerge, Büyük Aşlama Höyük and Türkmen-Karahöyük. Büyük Aşlama Höyük (17/48) is a 15 ha mound with an extensive lower town (around 15-17 ha), rising 26 m above the plain (Fig. 13b) and topped with a probable fortification system visible from satellite imagery. The majority of the material we collected is from the first half of the second millennium BC (Massa *et al.* in press: fig. 3). Surface collections included numerous crescent-shaped loom weights and a high concentration of storage vessels all dating between the Middle Bronze Age and early Hittite period. Büyük Aşlama Höyük would have been placed near the top of the early-mid second millennium settlement hierarchy, on the opposite side of the Plain from Konya-Karahöyük.

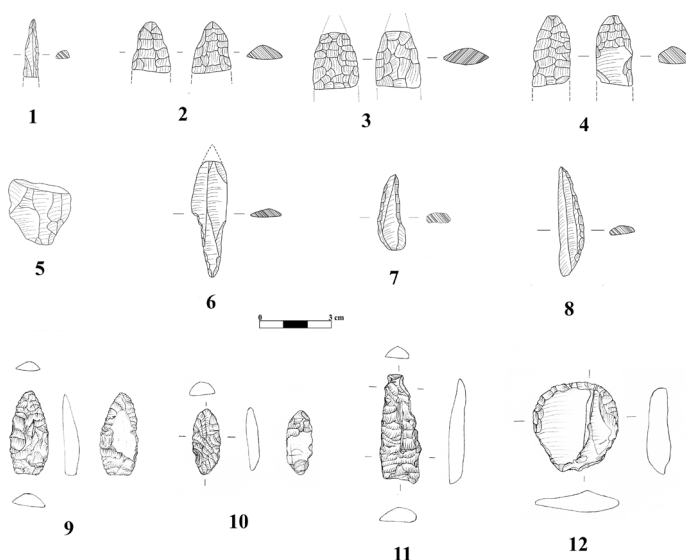


Fig. 4. Aceramic Neolithic chipped stone finds: (1) Kumtepe Mevkii, flint borer; (2) Göktomek Höyük, retouched obsidian arrowhead; (3) Büyük Aşlama Höyük, retouched obsidian arrowhead; (4) Koçluk Tepe, retouched obsidian arrowhead; (5) Ali Höyük, obsidian pyramidal core; (6) Akarca, obsidian arrowhead; (7-8) Akarca, obsidian micropoints; (9) Göçü Höyük, retouched obsidian arrowhead; (10-11) Beşağıl, retouched obsidian arrowheads; (12) Beşağıl, obsidian scraper. Drawings 1-8 by Neyir Kolankaya, 9-12 by Fadime Arslan.

Türkmen-Karahöyük (17/02), the largest settlement mound in the Konya Plain, consists of a steep-sided, 35 ha central mound that rises 35 m above the plain and a 'lower town' that includes five smaller satellite mounds and a pottery scatter that is at least 40-50 ha and partly built over by the modern village (Fig. 13a). The site was clearly a primary centre in the Konya Plain, and was occupied at least since the mid-third millennium BCE. Our preliminary work at Türkmen-Karahöyük suggests that, while the central mound yields conclusive evidence for a significant occupation in the Middle and Late bronze Ages, most of the lower settlement was only occupied during the late second and early first millennia BC. An intensive survey planned for the 2019 season will hopefully provide a more secure date for the occupation of the lower town. The site appears to have fulfilled the role of major regional centre through the Late Iron Age and perhaps into the Hellenistic period (Baird 1999: 14). Fortification walls are visible from satellite imagery encircling the top of the mound (the citadel), suggesting the monumental and strategic importance of this site, at least in its later phases.

Many of the sites in the alluvium with evidence for Late Bronze Age occupation continued to be occupied in the Iron Age, ranging from the largest mounds in our survey area to

the smallest (Fig. 10). Mounds with apparent Late Bronze Age to Early Iron Age continuity include Bilçeli Höyük (17/13, 13 ha, rising 5 m above the plain), Hamam Höyük (17/30, 2 ha, 2 m high), Çatalhöyük II (17/32, 15 ha, 4 m high), and Höyükli Yayla Höyüğü (17/35, 8 ha, 3 m high).

Likewise many of the settlement mounds with Early Iron Age occupation continued to be inhabited into the Late Iron Age-Hellenistic periods. Given stylistic continuity and the paucity of stratigraphically-derived comparanda from this region, at present the precise chronological boundary between these two phases is challenging to identify. One of the more remarkable patterns we recorded from the second half of the first millennium BCE relates to the formation of numerous, small, 2-3 m high mounds clustering around an older, larger,

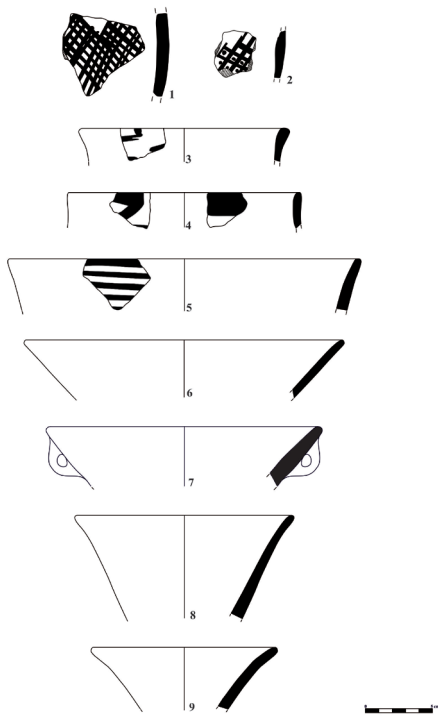


Fig. 5. Early/Middle Chalcolithic (1-5) and Late Chalcolithic (6-9) pottery: (1-2) Samıh Höyük, body sherds; (3-5) Musluk Höyük, bowls; (6-7) Sarlak Höyük, bowls; (8-9) Sarlak Höyük, deep bowls. Drawings by Yusuf Tuna.

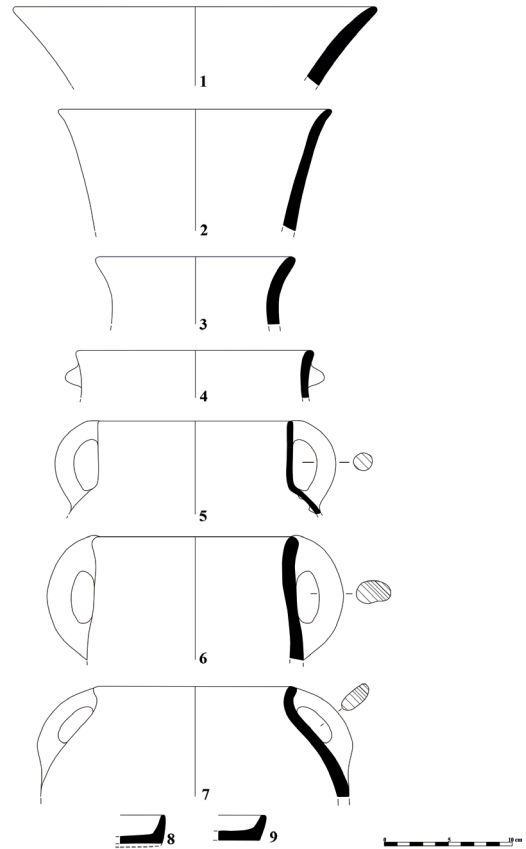


Fig. 6. Late Chalcolithic pottery: (1-2) Samıh Höyük, deep bowls; (3) Emirler Höyük, jar; (4-5) Samıh Höyük, jars; (6) Emirler Höyük, jar; (7) Samıh Höyük, jar; (8-9) Samıh Höyük, trays. Drawings by Yusuf Tuna.

central mound. We observed this pattern at Bilçeli Höyük (17/13, 4 ha central mound with 9 ha of smaller mounds) and Gıyan Höyük (17/29, 5 ha mound with 23 ha of smaller mounds) in the alluvium, and Sütçehöyüğü (17/26, 4 ha central mound with 57 ha of smaller mounds) and Savatra Höyük (17/18, 4 ha central mound with 23 ha of smaller mounds) in the steppe. These patterns are clearly signalling new choices of where and how to live: more dispersed (i.e. less nucleated and defensive) and probably associated with a new era of political stability in the context of empires.

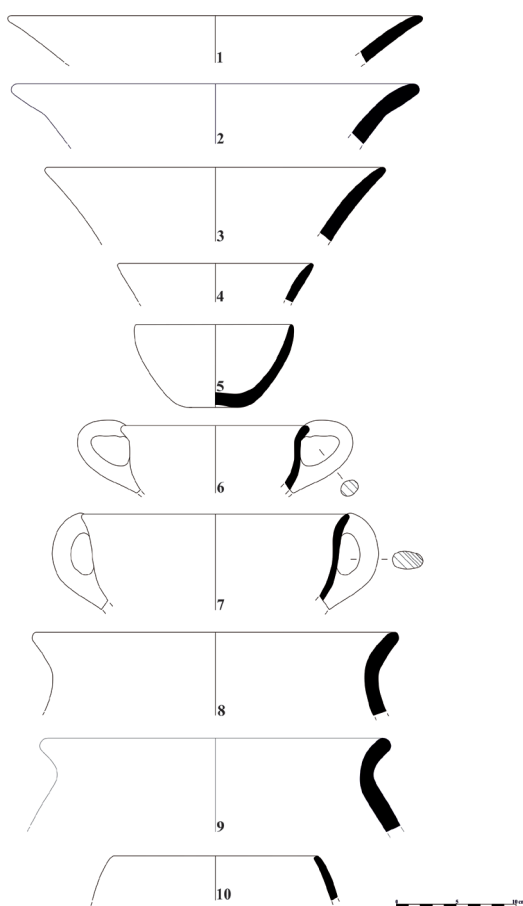


Fig. 7. Early Bronze Age pottery: (1-2) Emirler Höyük, EB I bowls; (3, 5) Samih Höyük, EB I-II bowls; (4) Emirler Höyük, EB I-II bowl; (6-7) Samih Höyük, EB III handled cups; (8, 10) Samih Höyük, EB I jars; (9) Emirler Höyük, EB I jar. Drawings by Yusuf Tuna.

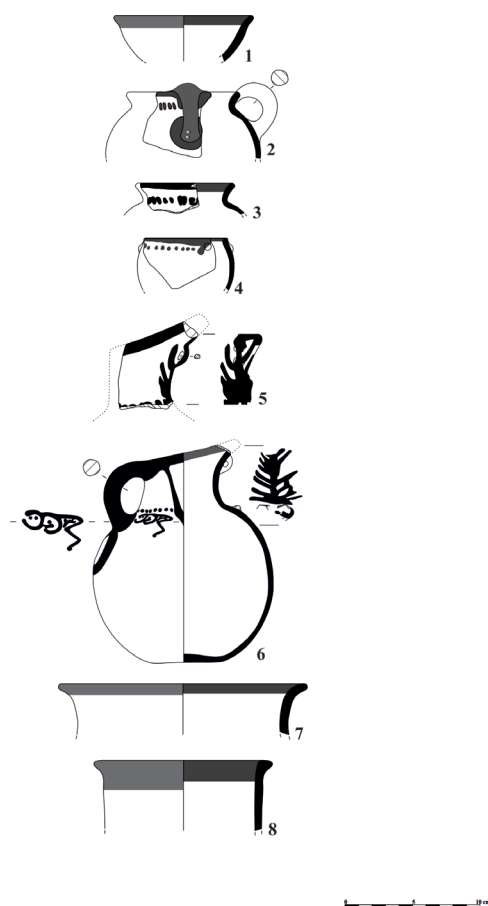


Fig. 8. Early Bronze Age Metallic Ware: (1) Samih Höyük, bowl; (2-4) Samih Höyük, small jars; (5-6) Samih Höyük, spouted jugs; (7) Emirler Höyük, jar; (8) Samih Höyük, jar. Drawings by Yusuf Tuna.

## The steppe margin

Some of the most interesting results from the 2017 and 2018 field seasons were from the steppe margin. For example, the low intensity of erosional and depositional processes in this landscape has allowed us to identify lithic scatters that are otherwise invisible in the alluvium, and represent some of the earliest evidence for human frequentation in the region. Two key sites are particularly informative of the Aceramic Neolithic in the steppe: the Akarca rock shelters (17/22), on the western slopes of the Boz Mountains, and the Beşagıl campsite (18/87), on the north-eastern slopes of a volcanic hillock (see below the large Bronze Age fort at Kane Kalesi on the same volcanic feature).

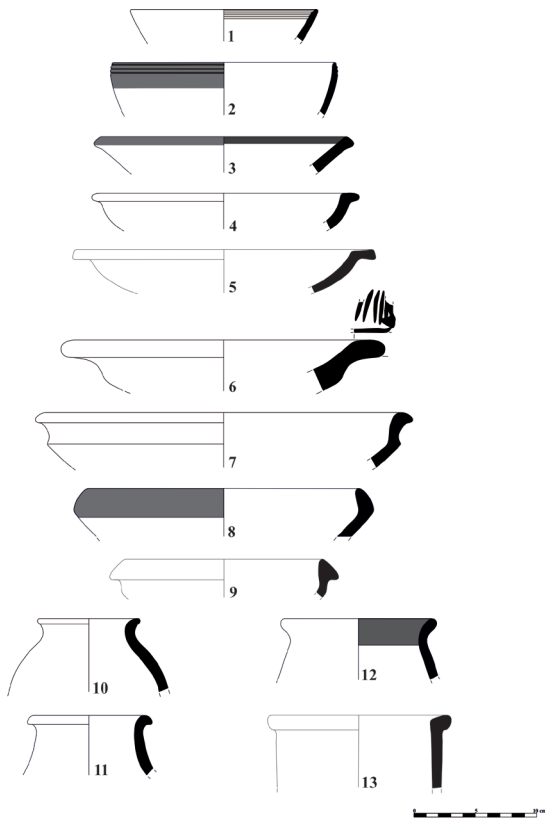


Fig. 9. Second millennium BC pottery: (1-3) Kane Kalesi, 2nd millennium BCE bowls; (4) Kilisetepe Höyük, 2nd millennium BC bowl; (5) Samıh Höyük, MBA bowl; (6) Sürgüç Höyük, MBA bowl; (7-8) Samıh Höyük, MBA bowl; (9) Kane Kalesi, MBA bowl; (10) Üçkuyular Yaylası Höyük, 2nd millennium BCE jar. Drawings by Yusuf Tuna.

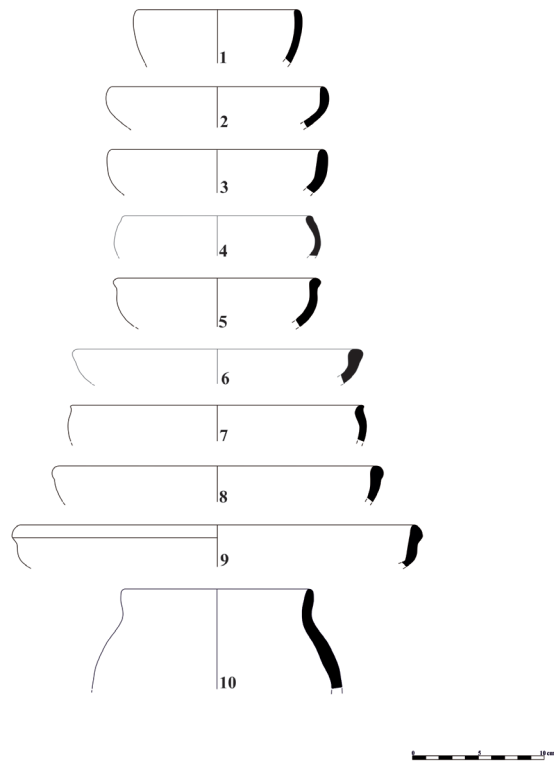


Fig. 10. Iron Age pottery: (1) Kane Kalesi, bowl; (2-3) Üçkuyular Yaylası Höyük, bowls; (4) Kane Kalesi, bowl; (5) Kilisetepe Höyük, bowl; (6) Alanlı Höyük, bowl; (7) Kane Kalesi, bowl; (8) Üçkuyular Yaylası Höyük, bowl; (9) Sürgüç Höyük, bowl; (10) Alanlı Höyük, jar; (11-12) Üçkuyular Yaylası Höyük, jars; (13) Kilisetepe Höyük, jar. Drawings by Yusuf Tuna.



The multi-period Akarca rock shelters, located at the interface between the Boz Mountains and the Yarma marshes (Fig. 13c), were first occupied in the Aceramic Neolithic. We identified a large chipped stone assemblage of mostly obsidian blades and bladelets, but also numerous arrowheads (Figs. 4.6-8), with close parallels from assemblages at Aşıklı Höyük (Balkan-Atlı 1994: fig. 2, no: 20, 23; Yıldırım-Balcı 2011: fig. 5, no. 2), Yellibelen (Balkan-Atlı *et al.* 2001: fig. 9, no: 4), Can Hasan III (Ataman 1988), and Suberde (Bordaz 1970). The Akarca rock shelters were also frequented in the late prehistoric and medieval periods.

Similarly, the Beşağıl campsite, at the interface between the steppe and the highlands, is also represented by several episodes of occupation. The earliest is an Aceramic Neolithic lithic assemblage scattered across over 2 ha. It is comprised almost entirely of obsidian and includes arrowheads, scrapers and blades (Figs. 4.10-4.12), and is contemporary with the later Aceramic site of Sancak Höyük in the delta (Baird 2010). The Bronze and Iron Age occupation of the site is probably associated with the Kane Kalesi (see below).

Other stray lithic implements like a flint borer from Kumtepe Mevkii (17/GS003, Fig. 4.1), and obsidian arrowheads from Göktömek Höyük (17/57, Fig. 4.2) and Göçü Höyük (18/65, Fig. 4.9) can also be broadly dated to the Aceramic Neolithic, and point to the regular frequentation and exploitation of the steppe. At present, the only evidence for frequentation of the steppe in the later Neolithic period is a fragmentary point (spearhead?) from Sütçehöyüğü (17/26) that shows clear stylistic similarities with examples from Çatalhöyük East (Conolly 1999: figs 4.1.5 and 4.1.8; Mellaart 1961: figs 7.1-7.5).

The large lithic assemblage from Karatepe (17/07) and the isolated find from Sökmen Köyü (18/GS09) further demonstrate the continued visitation and exploitation of the steppe in later prehistoric periods. In particular, at the Karatepe campsite located on a hill slope protected from the prevailing northern winds, we collected large quantities of late prehistoric obsidian tools and flakes scattered over an area of 1.5 ha, possibly in association with EB III pottery.

It is noteworthy that, with the possible exception of stray Aceramic Neolithic finds from the Göktömek Höyük and Göçü Höyük's settlement mounds, KRASP has yet to identify conclusive evidence for farming (sedentary) settlement in the steppe prior to the Early Bronze Age. Even during the third and early second millennia BCE, settlement mounds are exclusively associated with the piedmont of the Boz Mountains (e.g. Göktömek Höyük -17/57-, Savatra Höyük -17/18-, Üçkuyu Yaylası Höyük -17/28), where settlements were located at small streams or springs. Mounded settlements in the central area of the steppe, including large sites like Kilise Tepe Höyük (17/12), Gıyan Höyük (17/29) and Sütçehöyüğü (17/26), were probably first settled during or after the last quarter of the second millennium BC. Today settlement and farming in this area relies entirely on irrigation canals, and we are raising the possibility that the appearance of mounds during the Early Iron Age may have been associated with centralised, state-sponsored irrigation strategies. High concentrations of reused/recycled Roman and Late Antique architectural elements from modern villages in the steppe point to later historical settlement in this landscape, which probably also relied on irrigation systems (see e.g. Baird 2004).

## The highland margin

With an elevation of ca. 1400-1700 m asl (thus ca. 400-700 m above the Konya Plain), the Boz Mountains represent a significant barrier between the plain and the remainder of the central Anatolian plateau. At present, vegetation is mostly represented by grasses and sparse shrubs, with very limited arboreal cover located at springs that are otherwise protected from the prevailing winds, and KRASP has yet to identify evidence for sedentary settlement in this landscape beyond fortified hilltop sites (see below). Intriguingly, we recorded several small (currently undated but likely post-Iron Age) stone tumuli associated with main valley systems, suggesting these landscapes were part of mortuary practices for groups that we have yet to identify. We have also recorded post-Medieval (?) stone-built animal pens in various shapes and sizes. A stray obsidian arrowhead from Koçluk Tepe (17/GS02, Fig. 4.4), as well as the large campsite at Beşağıl (18/87) located at the interface between the highlands and plain, demonstrate an early prehistoric frequentation of this landscape, probably for hunting.

The most prominent feature in this ecozone is represented by a string of hilltop fortifications following the Bozdağ orographic range in a north-west/south-east direction (Fig. 11). In all cases, the fortification walls are contemporary with the latest phases of occupation of the site. Most were already in use during the Iron Age, but ceramics recovered from these sites show that many (including Kane Kalesi and Kınık Tepe Kalesi) were first constructed during the Middle Bronze Age (Figs. 9.1-3, 9.9; Massa *et al.* in press: figs 3-4). Hasan Bahar observed a similar if even earlier pattern in the western Taurus Mountains (cf. Bahar and Koçak 2004: 22, 31, 49). In particular, hilltop sites like Seçme Kalesi, Takkeli Dağ and Çaltı Kalesi were apparently already founded in the third millennium BC.

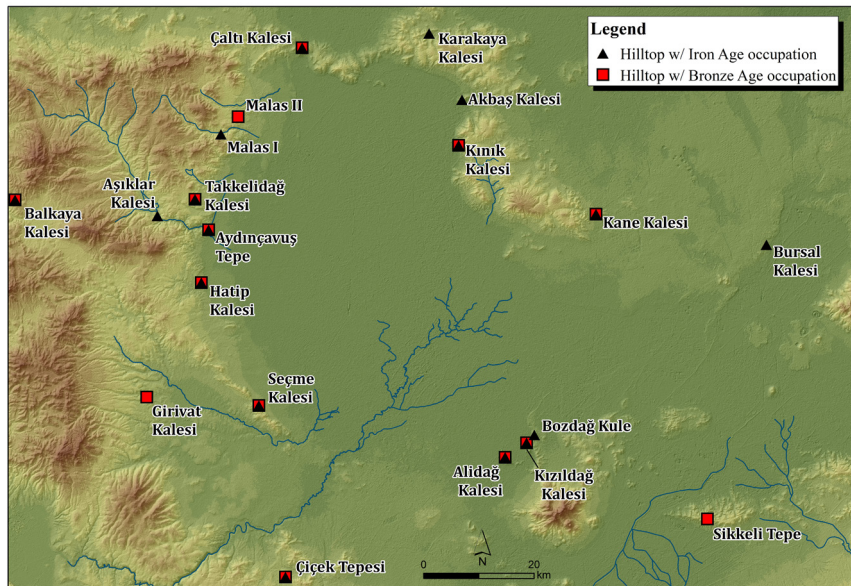


Fig. 11. Known fortified hilltops or hilltop sites with Bronze and Iron Age occupation. Sites located outside of the KRASP survey area are from Bahar and Koçak 2004.

The varying size of these sites suggests different functions. For example, the fortification at Bozdağ (17/54) was only 20 m in diameter and is probably best interpreted as a watch-tower (Fig. 14c). Fortified hilltops at Akbaş Kalesi (17/25) and Kınık Tepe Kalesi (17/55), both with diameters around 50–60 m, may have been used as smaller forts (Figs. 14a, 14c, 14d). Kane Kalesi (17/15) is the largest fortified hilltop site that we have identified so far, and may have included a garrison (Fig. 14b). The fortification ring is 75 m in diameter, and the site includes an extensive occupation beyond the circuit walls. The fort is probably associated with a 3 ha terraced settlement downslope (Beşagıl, 18/87). While more spatial and chronological analyses are needed, these sites are beginning to reveal coordinated efforts to control the major access points into the Konya Plain, a process that began perhaps as early as the late third millennium BC.

The highland margin was also a focus for stone quarrying. We recorded several rectangular basins that had been chiselled out of the limestone at Cüneyt Tepe (17/27), as well as steps and a bench carved from the same outcrop. The antiquity of the site was evident although the surface collection was minimal and uninformative. At İnliadağ Tepe (17/37) we identified a small flat settlement with Iron Age, Hellenistic and Roman pottery on a ridge directly adjacent to a small modern quarry. Although our survey of the quarry did not reveal any obvious pre-modern features, it is likely that this upland settlement was associated with quarrying activity.

### Unsolicited excavations and other modern features of the archaeological landscape

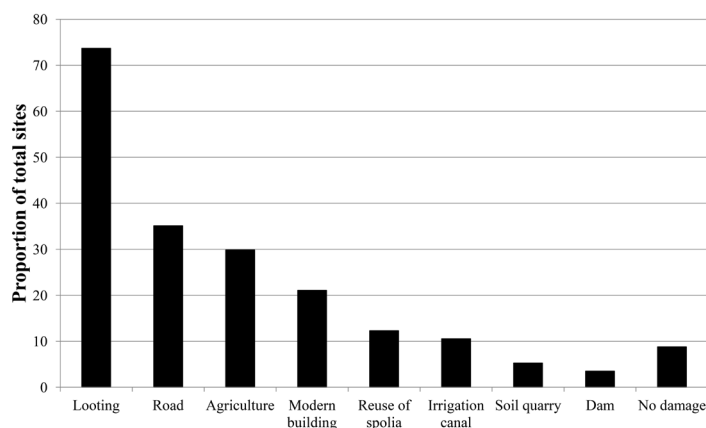


Fig. 12. Bar chart showing the impact of modern human activity on archaeological sites in the KRASP study area.

Since KRASP was initiated in 2016, we have been systematically recording the impact of modern human activity on archaeological sites in the Konya Plain with satellite imagery (see Bachhuber and Massa 2016), assessments of earlier publications, and our own fieldwork. Approximately 90% of the 98 sites that we recorded in the 2017 and 2018 field seasons have been impacted by looting, agriculture, roadwork, irrigation and/or

construction (Fig. 12). Of these, 65 have been looted, with impacts ranging from single looter pits to massive trenches dug with mechanised excavators. KRASP is committed to understanding this activity as part of the archaeological palimpsest of the Konya Plain. We are particularly interested in the political economy and ideology of looting, and how looting, evidently, forms

part of the everyday fabric of these farming communities. The reuse of Roman and Late Antique monuments is also pervasive in the villages and cemeteries of the KRASP study area. This phenomenon ranges from the prosaic use of architectural elements in construction projects to more ideologically significant appropriations in cemeteries in particular.

## CONCLUSIONS

KRASP's 2017 and 2018 field seasons provided more detail on patterns of settlement and land use in three distinct ecological zones of the Konya Plain: the cultivated area, the steppe, and the highlands. Our most significant results so far derived from the marginal landscapes (e.g. steppe and highlands) that have historically attracted less research interest. By recording non-mounded settlement sites, fortified hilltops, quarries, cave shelters, temporary/pastoral encampments, and mortuary monuments, KRASP is examining both historically-contingent settlement in the margin, and the economic, political and ideological motivations to interact with these landscapes. The margin also offers a window onto some of the earliest human activity in the Konya Plain, evidence for which has been deeply buried under the alluvium.



Fig. 13. KRASP surveyed sites: (a) Türkmenkarahöyük; (b) Büyük Aşlama Höyük; (c) Akarca Rock Shelters (marked with arrows). Photographs courtesy of the KRASP Archive.



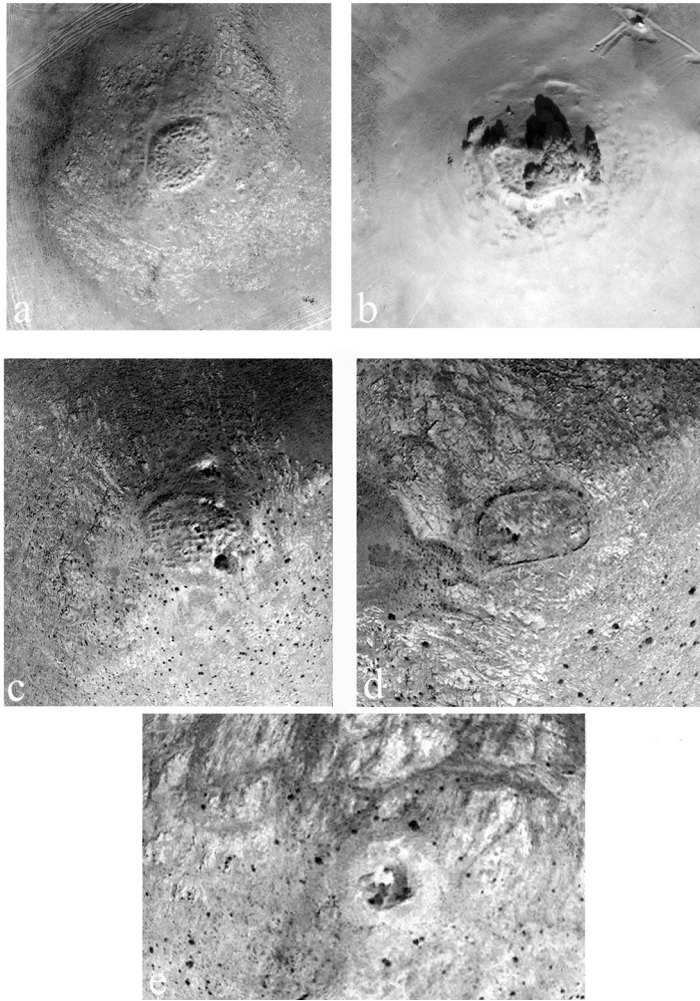


Fig. 14. Satellite images of surveyed fortified hilltops from the 2017 season (not to scale): (a) Yağlıbayat Kalesi; (b) Kane Kalesi; (c) Kınık Tepe Kalesi; (d) Akbaş Kalesi; (e) Bozdağ Kalesi. Satellite imagery courtesy of Google Earth.

KRASP is also foregrounding the ‘archaeological present’ of our study area. The diachronic framework of KRASP includes an assessment of the multi-temporality of these landscapes, in particular entanglements between the material remains of the ancient past and the livelihoods of the people who live in this region today. In the 2017 and 2018 field seasons we recorded both looting activities and the reuse of ancient monuments to begin addressing these complex issues.

#### ACKNOWLEDGMENTS

We would like to thank Muzaffer Saçkesen and Mustafa Eryaman for their support as the Ministry of Culture and Tourism official representatives for the 2017 and 2018 season respectively.

We are very grateful to all of our team members: Şemsettin Akyol,

Fadime Arslan, Volkan Artan, Çağlayan Bal, Florence Barker, Kıvanç Başak, Oscar Beighton, Tuna Çapar, Osman Dengiz, Yunus Gürlek, Fatih Karadaş, Hannah Lefteris Ringheim, Jill Marcum, Gamze Meriç, Gareth Roberts, Deniz Sarı, Irmak Tezcan, Nihal Uzun and Aubrey Young. We would like to thank all team members in particular for their tireless efforts and good humour during those long climbs under the baking sun of the Konya Plain. The 2017 and 2018 fieldwork seasons were sponsored by the British Institute at Ankara, the Gerald Averay Wainwright Fund at the University of Oxford, and Bilecik Şeyh Edebali University.

KRASP’s research activities can be followed via our website at [www.krasp.net](http://www.krasp.net).



## BIBLIOGRAPHY

- Alp, S., 1961 — Karahöyük kazısı. *Belleten* XXV: 523-524.
- Alp, S., 1968 — Zylinder- und Stempelsiegel aus Karahöyük bei Konya. Ankara: Türk Tarih Kurumu Yayınları.
- Alp, S., 1973 — Karahöyük-Konya kazıları. *Belleten* XXXVII: 434-435.
- Ataman, C., 1988 — The Chipped Stone Assemblage from Can Hasan III: A Study in Typology, Technology and Function. Unpublished PhD dissertation, University College London.
- Ayala, G., J. Wainwright, R. Walker Hodara, J.M. Lloyd, M.J. Leng and C. Doherty, 2017 — Palaeoenvironmental Reconstruction of the Alluvial Landscape of Neolithic Çatalhöyük, Central Southern Turkey: The Implications for Early Agriculture and Responses to Environmental Change. *Journal of Archaeological Science* 87: 30-43.
- Bachhuber, C., 2013 — James Mellaart and the Luwians: a Culture-(Pre)history. In: A. Mouton, I. Rutherford and I. Yakubovich (eds.), *Luwian identities: culture, language and religion between Anatolia and the Aegean*. Leiden: Brill, 279-304.
- Bachhuber, C., and M. Massa, 2016 — Engaging the material and academic legacies of the first BIAA-led surveys in the Konya plain. *Heritage Turkey* 6: 21-22.
- Bahar, H., 1999 — Demir Çağı'nda Konya ve Çevresi. Konya: Selçuk Üniversitesi Yayınları.
- Bahar, H., 2002 — Konya ve Karaman illeri yüzey araştırmaları 2000. *Araştırma Sonuçları Toplantısı* XIX: 257-270.
- Bahar, H., 2005 — Konya ve Karaman illeri yüzey araştırmaları 2003. *Araştırma Sonuçları Toplantısı* XXII: 341-354.
- Bahar, H., 2007 — Konya-Karaman illeri ve ilçeleri yüzey araştırması 2005. *Araştırma Sonuçları Toplantısı* XXIV (1): 481-500.
- Bahar, H., 2010 — Konya ve Karaman illeri ve ilçelerinde arkeolojik yüzey araştırması, 2008. *Araştırma Sonuçları Toplantısı* XXVII (3): 415-433.
- Bahar, H., 2011 — Konya ve Karaman illeri ve ilçeleri yüzey araştırması 2009. *Araştırma Sonuçları Toplantısı* XXVIII (2): 303-319.
- Bahar, H., 2014 — Konya-Karaman illeri ve ilçeleri arkeolojik yüzey araştırması 2012. *Araştırma Sonuçları Toplantısı* XXXI (2): 256-271.
- Bahar, H., and Ö. Koçak, 2004 — Eskiçağ Konya araştırmaları 2 (Neolitik Çağ'dan Roma Dönemi sonuna kadar). Konya: Kömen.
- Bahar, H., and H.G. Küçükbezci, 2012 — 2010 yılı Konya ve Karaman illeri ile ilçeleri arkeolojik yüzey araştırması. *Araştırma Sonuçları Toplantısı* XXIX (1): 97-116.
- Baird, D., 1995 — Konya Plain Survey, Central Anatolia. *Anatolian Archaeology* 1: 11-12.
- Baird, D., 1996a — Konya Plain. *Anatolian Archaeology* 2: 12.
- Baird, D., 1996b — The Konya Plain Survey: aims and methodology. In: I. Hodder (ed.), *On the Surface: Çatalhöyük 1993-1995*. Cambridge: McDonald Institute for Archaeological Research, 41-46.
- Baird, D., 1997 — The Konya Plain. *Anatolian Archaeology* 3: 12-13.
- Baird, D., 1998 — Konya Plain. *Anatolian Archaeology* 4: 16.
- Baird, D., 1999 — Konya Plain Survey, Central Anatolia. *Anatolian Archaeology* 5: 13-14.
- Baird, D., 2000 — Konya Plain Survey. *Anatolian Archaeology* 6: 15.
- Baird, D., 2001 — Konya Plain Survey. *Anatolian Archaeology* 7: 16.
- Baird, D., 2002 — Early Holocene settlement in central Anatolia: Problems and prospects as seen from the Konya Plain. In: F. Gerard and L. Thissen (eds.), *The Neolithic of Central Anatolia*. İstanbul: Ege Yayınları, 139-160.
- Baird, D., 2002 — Konya Plain Survey. *Anatolian Archaeology* 8: 19.
- Baird, D., 2004 — Settlement expansion on the Konya Plain, Anatolia: 5<sup>th</sup>-7<sup>th</sup> centuries AD. In: W. Bowden, L. Lavan and C. Machado (eds.), *Recent Research on the Late Antique Countryside*. Leiden-Boston: Brill, 219-246.
- Baird, D., 2006 — The history of settlement and social landscapes in the Early Holocene in the Çatalhöyük area. In: I. Hodder (ed.), *Çatalhöyük perspectives*. Cambridge: McDonald Institute for Archaeological Research, 55-74.

- Baird, D., 2007 — Pınarbaşı Orta Anadolu'da Epi-Paleolitik Konak Yerinden Yerleşik Köy Yaşamına. In: M. Özdoğan and N. Başgelen (eds.), *Türkiye'de Neolitik Dönem. Yeni Kazılar, Yeni Bulgular*. İstanbul: Arkeoloji ve Sanat Yayınları, 285-311.
- Baird, D., 2010 — Was Çatalhöyük a centre? The implications of a Late Ceramic Neolithic assemblage from the neighbourhood of Çatalhöyük. In: D. Bolger and L.C. Maguire (eds.), *Development of pre-state communities in the ancient Near East*. Oxford: Oxbow Books, 207-216.
- Baird, D., E. Asouti, L. Astruc, A. Baysal, E. Baysal, D. Carruthers, A. Fairbairn, C. Kabukçu, E. Jenkins, K. Lorentz, C. Middleton, J. Pearson, and A. Pirie, 2013 — Juniper smoke, skulls and wolves' tails. The Epipalaeolithic of the Anatolian plateau in its SW Asian context; insights from Pınarbaşı. *Levant* 45 (2): 175-209.
- Baird, D., D. Carruthers, A. Fairbairn, and J. Pearson, 2011 — Ritual in the landscape: evidence from Pınarbaşı in the seventh-millennium cal BC Konya Plain. *Antiquity* 85: 380-394.
- Baird, D., A. Fairbairn, and L. Martin, 2016 — The animate house, the institutionalization of the household in Neolithic central Anatolia. *World Archaeology* 49 (5): 1-24.
- Baird, D., A. Fairbairn, L. Martin, and C. Middleton, 2012 — The Boncuklu Project; the origins of sedentism, cultivation and herding in central Anatolia. In: M. Özdoğan and N. Başgelen (eds.), *The Neolithic in Turkey: New Excavations and New Research*. İstanbul: Arkeoloji ve Sanat, 219-244.
- Balkan-Atlı, N., 1994 — The Typological Characteristics of Aşıklı Höyük Chipped Stone Industry. In: H.G. Gebel and S.K. Kozłowski (eds.), *Neolithic Chipped Stone Industries of the Fertile Crescent, Studies in Early Near Eastern Production, Subsistence and Environment I*. Berlin: Ex Oriente, 209-221.
- Balkan-Atlı, N., N. Kayacan, M. Özbaşaran, and S. Yıldırım-Balcı, 2001 — Variability in the Neolithic Arrowheads of Central Anatolia (typological, technological and chronological aspect). In: I. Caneva, C. Lemorini, D. Zampetti and P. Biagi (eds.), *Beyond Tools: Redefining the PPN Lithic Assemblage of the Levant*. Proceedings of the Third Workshop on PPN Chipped Lithic Industries. Department of Classical and Near Eastern Studies, Ca' Foscari University of Venice, 1-4 November 1998. Berlin: Ex Oriente, 27-43.
- Bevan, A., and J. Conolly, 2013 — *Mediterranean Islands, Fragile Communities and Persistent Landscapes: Antikythera in Long-term Perspective*. Cambridge: Cambridge University Press.
- Bordaz, J., 1970 — The Suberde Excavations, Southwestern Turkey. An Interim Report. *Türk Arkeoloji Dergisi* 17: 43-70.
- Casana, J., 2014 — Regional-Scale Archaeological Remote Sensing in the Age of Big Data. Automated Site Discovery vs. Brute Force Methods. *Advances in Archaeological Practice* 3 (13): 222-233.
- Conolly, J., 1999 — The Çatalhöyük flint and obsidian industry. Oxford, BAR International Series 787.
- Düring, B., and C. Glatz (eds.), 2015 — *Kinetic Landscapes. The Cide Archaeological Project: Surveying the Turkish Western Black Sea Region*. Berlin: De Gruyter.
- Fairbairn, A., E. Jenkins, D. Baird, and G. Jacobsen, 2014 — 9<sup>th</sup> millennium plant subsistence in the central Anatolian highlands: new evidence from Pınarbaşı, Karaman province, central Anatolia. *Journal of Archaeological Science* 41: 801-812.
- Fletcher, A., D. Baird, M. Spataro, and A. Fairbairn, 2017 — Early Ceramics in Anatolia: Implications for the Production and Use of the Earliest Pottery. The Evidence from Boncuklu Höyük. *Cambridge Archaeological Journal* 27 (2): 351-369.
- Frankel, D., and J.M. Webb, 2012 — Pottery production and distribution in prehistoric Bronze Age Cyprus. An application of pXRF analysis. *Journal of Archaeological Science* 39: 1380-1387.
- French, D.H., 1966 — *Lists and Maps of Sites in the Konya, Çumra and Karaman Areas*. Unpublished pamphlet. Ankara: British Institute at Ankara.
- French, D.H., 1970 — Notes on Site Distribution in the Çumra Area. *Anatolian Studies* 20: 139-148.
- French, D.H., 2016 — *Roman roads and milestones of Asia Minor. Vol. 3.9: An Album of Maps*. London: British Institute at Ankara.

- Güneri, S., 1987 — Orta Anadolu Höyükleri. *Araştırma Sonuçları Toplantısı* IV: 207-225.
- Güneri, S., 1988 — Orta Anadolu Höyükleri 1986. *Araştırma Sonuçları Toplantısı* V (2): 77-103.
- Hamilakis, Y., and A. Anagnostopoulos (eds.), 2009 — Archaeological Ethnographies. *Public Archaeology* 8 (2/3).
- Hawkins, J.D., 2000 — Corpus of Hieroglyphic Luwian Inscriptions, Vol. 1. Berlin: Walter de Gruyter.
- Hodder, I. (ed.), 2005 — Inhabiting Çatalhöyük: Reports from the 1995-99 Seasons. British Institute at Ankara Monographs 38. London: British Institute at Ankara.
- Hodder, I. (ed.), 2006 — Excavating Çatalhöyük: South, North and KOPAL Area Reports from the 1995-99 Seasons. British Institute at Ankara Monographs 37. London: British Institute at Ankara.
- Hodder, I. (ed.), 2013 — Çatalhöyük excavations: Humans and Landscapes of Çatalhöyük excavations. Reports from the 2000-2008 season. British Institute at Ankara Monographs 47. London: British Institute at Ankara.
- Hodder, I. (ed.), 2014 — Çatalhöyük excavations: the 2000-2008 seasons. British Institute at Ankara Monographs 46. London: British Institute at Ankara.
- Horejs, B., R. Jung, and P. Pavúk (eds.), 2010 — Analysing Pottery: Processing, Classification, Publication. Bratislava: Comenius University Bratislava.
- Karağuz, G., H. Bahar, and H.İ. Kunt, 2002 — Kızıldağ Üzerine Yeni Bazı Gözlemler. *Türkiye Bilimler Akademisi Arkeoloji Dergisi* 5: 7-34.
- Karağuz, G., and H.İ. Kunt, 2004 — Eskiçag Kaleleri (Orta Anadolu'nun Güney Kesimi). Konya: Çizgi Kitabevi.
- Massa, M., C. Bachhuber, F. Şahin, N. Bostancı-Kolankaya, and Y. Tuna (in press) — Konya İli, Karatay Ve Çumra İlçeleri Arkeolojik Yüzey Araştırması 2017 Yılı. *Araştırma Sonuçları Toplantısı* XXXVI.
- Mellaart, J., 1954 — Preliminary Report on a Survey of Pre-Classical Remains in Southern Turkey. *Anatolian Studies* 4: 175-240.
- Mellaart, J., 1955 — Iron Age pottery from Southern Anatolia. *Belleten* XIX (74): 115-137.
- Mellaart, J., 1958 — Second millennium pottery from the Konya Plain and neighbourhood. *Belleten* XXII (87).
- Mellaart, J., 1961 — Early Cultures of the South Anatolian Plateau. *Anatolian Studies* 11: 159-184.
- Mellaart, J., 1963 — Early Cultures of the South Anatolian Plateau, II: The Late Chalcolithic and Early Bronze Ages in the Konya Plain. *Anatolian Studies* 13: 199-236.
- Mellaart, J., 1967 — Çatal Hüyük: A Neolithic Town in Anatolia. London: Thames & Hudson.
- Meyer, N., 2003 — Pottery Strategy and Chronotypes. In: M. Given and A.B. Knapp (eds.), The Sydney Cyprus Survey Project: Social Approaches to Regional Archaeological Survey. *Monumenta Archaeologica* 21. Los Angeles: Cotsen Institute of Archaeology, 14-16.
- Omura, S., 2000 — Preliminary report of the general survey in central Anatolia (1999). *Anatolian Archaeological Studies* IX: 37-76.
- Omura, S., 2001 — Preliminary report of the general survey in central Anatolia (2000). *Anatolian Archaeological Studies* X: 37-78.
- Omura, S., 2002 — 2000 Yılı Orta Anadolu'da Yürütülen Yüzey Araştırmaları. *Araştırma Sonuçları Toplantısı* XIX (2): 303-307.
- Roberts, N., 1980 — Late Quaternary geomorphology and palaeoecology of the Konya basin (Turkey). Unpublished PhD dissertation, University College London.
- Roberts, N., 1990 — Human-induced landscape change in South and Southwest Turkey during the later Holocene. In: S. Bottema, G. Entjes-Nieborg and W. van Zeist (eds.), Man's Role in the shaping of the Eastern Mediterranean Landscape. Rotterdam: Brookfield, 53-67.
- Roberts, N., 1996 — Konya Basin Palaeoenvironmental Research (KOPAL) Programme, 1994-1996. *Arkeometri Sonuçları Toplantısı* XII: 93-114.
- Roberts, N., W. Eastwood, C. Kuzucuoğlu, C. Fiorentino, and V. Caracuta, 2011 — Climatic, vegetation and cultural change in the eastern Mediterranean during the mid-Holocene environmental transition. *Holocene* 21 (1): 147-162.
- Todd, I.A., 1966 — Surface finds from various sites: central Anatolia. *Anatolian Studies* 16: 139-163.

- Türkeş, M., 1996 — Spatial and temporal analysis of annual rainfall regimes in Turkey. *International Journal of Climatology* 16: 1057-1076.
- Ur, J., L. de Jong, J. Giraud, J.F. Osborne, and J. MacGinnis, 2013 — Ancient cities and landscapes in the Kurdistan region of Iraq: The Erbil Plain Archaeological Survey 2012 season. *Iraq* 75: 89-118.
- Watkins, T., 1995 — Pınarbaşı excavation and Çatalhöyük regional survey. *Anatolian Studies* 45: 9-13.
- Watkins, T., 1998 — Pınarbaşı, Karaman Province: Investigating the Beginnings of Settlement in Central Anatolia. In: R. Matthews (ed.), *Ancient Anatolia: Fifty Years' Work by the British Institute at Ankara*. London: British Institute at Ankara, 27-34.
- Wilkinson, T.J., 2003 — *Archaeological Landscapes of the Near East*. Tucson: University of Arizona.
- Yıldırım-Balcı, S., 2011 — The Typological Analysis of Aşıklı Arrowheads and Problems. In: E. Healey, S. Campbell and O. Maeda (eds.), *The State of the Stone Terminologies in Near Eastern Lithics*. Proceedings of the Sixth PPN Conference on Chipped and Ground Stone Artefacts in the Near East, Manchester, 3<sup>rd</sup>-5<sup>th</sup> March 2008. Berlin: Ex Oriente, 411-415.



## TOWARDS A HIGH-DEFINITION APPROACH TO THE STUDY OF BYZANTINE FORTIFICATIONS. The case study of Tsikhisdziri (western Georgia)

Emanuele E. Intagliata, Davit Naskidashvili, J. Riley Snyder\*

### **Abstract**

*Fortifications have traditionally been studied through autoptic examination. This approach is not without shortfalls, especially when used to identify different phases of a wall whose building techniques appear similar over a long period of time. A high-definition approach to fortifications that integrates analytical analyses to more traditional methodologies could contribute considerably to shed more light on the relative chronology of this type of monument. Yet, this approach is far from being used widely by researchers.*

*This contribution aims to reflect on the benefits of approaching fortifications through a high-definition methodology. In so doing, it takes as a case study the walls on the citadel at Tsikhisdziri, in western Georgia. The remains at Tsikhisdziri have traditionally been interpreted as those of Petra Pia Justiniana, which is reported by Procopius as being constructed by Justinian in the first half of the sixth century AD and destroyed soon thereafter. Procopius' account has often steered archaeological investigations at the site towards early Byzantine remains, whilst there is evidence to suggest that the site survived well into the seventh century AD and beyond.*

*Through a traditional study of the remains coupled with petrographic study and X-Ray fluorescence analyses on brick and mortar samples, the authors have managed to reach a better understanding of the relative chronology of the fortifications at Tsikhisdziri. The investigation has proven the existence of an important late antique phase at this site, but has also found evidence to suggest that the walls remained in use and were constantly repaired well after the events glorified by Procopius.*

---

\* Emanuele E. Intagliata (Centre for Urban Network Evolutions [UrbNet], Aarhus University); Davit Naskidashvili (Faculty of Humanities, Ivane Javakishvili Tbilisi State University); J. Riley Snyder (Institute for Infrastructure and Environment, University of Edinburgh, School of Engineering). This work was supported by the Danish National Research Foundation under the grant DNRF119 - Centre of Excellence for Urban Network Evolutions (UrbNet). It presents the results of a survey project conducted in summer 2017 and funded by the British Institute at Ankara. The 2017 team members, which included Emanuele Intagliata, Davit Naskidashvili, Shio Shimvise and Marta Ravizza, have greatly benefited from the logistical and scientific support of numerous scholars and local authorities during their stay in Guria and Adjara. These included V. Licheli, A. Kakhidze, M. Vickers, N. Inaishvili, M. Mzhavanadze as well as the personnel of the Lanchkhuti, Chochatauri, Ozurgeti, Kobuleti, and Batumi archaeological museums. Brick petrography has been conducted by Dr. N. Phophoradze (Georgian Technical University). To all these people and institutions, the authors are most grateful. Any mistakes in this paper, however, remain fully our own.

## INTRODUCTION

In their being physical and administrative boundaries of cities, fortifications remain of key importance to shed light on urban spatial dynamics and pinpoint phases of expansion, shrinkage and unrest (Müth 2016: 159-160). In Classical and Byzantine archaeology, the study of city walls has often been approached through a stratigraphic methodology that rests on the visual examination of standing remains. Each building technique is considered a context in relative position within a structural matrix; absolute chronologies are often based on the presence of inscriptions, reused building material or diagnostic building techniques, which function as chronological markers by providing *termini post* or *ante quem* for a given context (Foss and Winfield 1986; Blanco Rotea *et al.* 2003: 17-39; Ley *et al.* 2016). In approaching the structural evidence through a stratigraphic methodology, then, the study of fortifications does not appear to be much dissimilar from any archaeological excavations. Unlike the latter, however, specialists on city walls have yet to fully integrate the important contributions of modern archaeological science.

Although an autoptic examination of the remains can go a long way in reaching an understanding of the absolute chronology of a city wall, this research approach is not devoid of methodological shortfalls. Building techniques are not always diagnostic and are seldom useful to pinpoint exact dating. Sometimes, features that appear to be diagnostic can be misleading informants (Brasse and Müth 2016). In describing the complex structural stratigraphy of the Land Walls at Constantinople, for example, Foss and Winfield (1986: 24) had difficulty associating the structural phases that featured brick bonding, which appears to be a predominant technique throughout the Byzantine period, with restoration works conducted by order of emperors and glorified by written sources or inscriptions. Before speculating on dating, however, one needs to reach an understanding of relative chronologies, which often proves difficult with a mere examination of the remains in complex, multi-phased sites. Building techniques that prove to be both relatively easy to construct – i.e. requiring a non-specialised workforce and little time, and effective against an enemy – often do not change for a long time.

Few studies have attempted to complement the autoptic examination of the remains with the results of scientific analyses, that is, for example, petrography, X-Ray diffraction (XRD) and X-Ray fluorescence (XRF) on fired brick and mortar (henceforth: high-definition approach – Birch *et al.*, in preparation). When these analytical techniques are conducted, they are seldom used in combination with visual examination to shed light on the relative chronology of a wall (e.g. Liu *et al.* 2015). It is this group of analyses, though, that we believe are crucial in order to overcome the methodological impasse reached in modern scholarship and look at city walls under a new light. By extending the pool of data from a given site through a high-definition approach, it is possible to narrow considerably the relative chronology of a wall and, therefore, better understand the spatial evolution of a settlement through time.

The aim of this paper is to reflect on the benefits of this approach in answering questions on the relative chronology of city walls through a case study the remains at Tsikhisdziri, in western Georgia. Tsikhisdziri is chosen here because of its articulated structural history and the challenges brought about by the presence of undiagnostic walls. Results of petrographic, and XRF analyses on mortar and brick from this site will here be presented for the first time.

## TSIKHISDZIRI AS A CASE STUDY

Much debate has shrouded the nature of the remarkably well preserved remains at Tsikhisdziri, in Adjara (southwest Georgia, some 20 km to the north of Batumi as the crow flies). Yet, mostly because of their location, scholarship now agrees to identify the site with the ancient *Petra Pia Iustiniana* glorified by written sources. The visible remains at the site are scattered on and between two hills, situated some c. 100 m from one another (Fig. 1). The remains on the southern hill have been razed to the ground almost completely to construct a modern restaurant. By contrast, the flat surface of the northern hill is encompassed by still well-preserved,

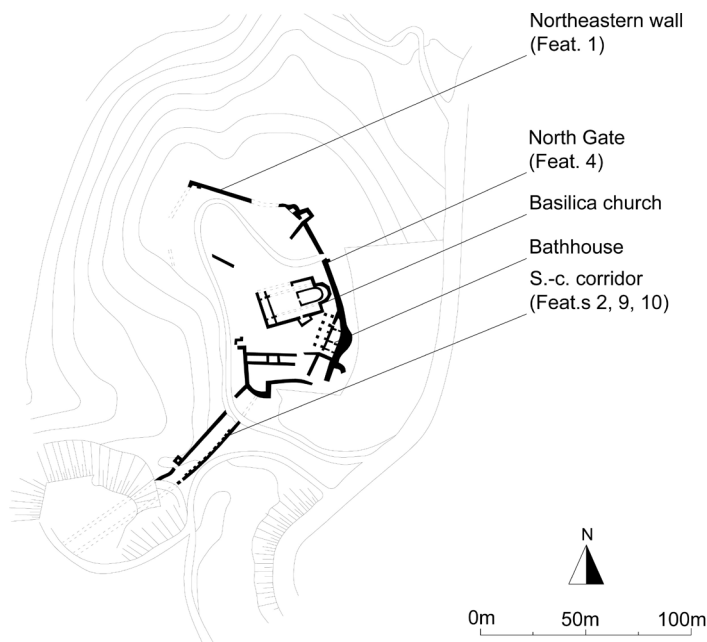


Fig. 1. Plan of Tsikhisdziri (re-drawn after Inaishvili 1974, pl. 1).

but heavily restored, defensive walls. This space also includes a number of buildings, among them being a sixth-century basilica church, a bathhouse, a warehouse and cisterns. Between the two hills is a third structural feature that consists of two walls that, at first sight, run parallel to each other. What is visible on the ground nowadays, however, is only a small fraction of the urban settlement, which must have extended further to the north and west (Inaishvili 1974; Inaishvili 1993; for a recent summary in English, see Kakhidze and Mamuladze 2016: 172-175).

The history of Petra in the Caucasus is mostly known thanks to the writing of the sixth-century AD historian Procopius, who discusses at length its vicissitudes during the Lazican war between Romans and Persians (AD 542-561). Petra is said to have been founded by emperor Justinian (AD 527-565) as part of the network of fortress cities strengthening the Lazican frontier. It was a trading hub, which allowed for the control and taxation of goods from and into Lazica (western Georgia) and functioned as a maritime gateway to connect inland Caucasus with the Black Sea. Although a harbour at Tsikhisdziri has never been found, there is evidence in the form of amphorae to suggest that in Late Antiquity (fourth-sixth centuries AD), the site was connected with the wider Black Sea trade network (Inaishvili and Vashakidze 2010: 152). According to Procopius (Wars, 8.12.28; Page 1962), the site was conquered by the Persians and, after an unsuccessful attempt, reconquered by the Roman general Bessas, who then razed the city walls to the ground (Braund 1994: 287-311).

Our archaeological understanding of the site is closely tied to the sixth-century narrative, which has almost completely obliterated the importance of the site in later times. Yet, written sources and archaeological evidence do confirm an occupation of Petra after the sixth-century events that were glorified by Procopius. The *Notitiae Episcopatum* 1-4 reports that the settlement had a bishop and was under the jurisdiction of Phasis and remained as such until at least the ninth century AD (Darrouzés 1981: 212, 227, 241, 259; Fedalto 1988: 403) and lead seals attest the presence of Byzantine officials until the eleventh century AD (Iashvili and Seibt 2006). The reasons behind Tsikhisdziri's survival in the immediate aftermath of the Lazican wars have never been adequately explored by historians and archaeologists. One could advance the possibility that, besides its strategic location that would have controlled the traffic along the coastal route, the settlement continued to play a crucial role in the maritime trade network of the Black Sea, working as an exchange node for goods entering and exiting the western Caucasus.

#### AUTOPTIC ANALYSIS OF THREE STRUCTURAL FEATURES

The complex structural stratigraphy of the fortifications at Tsikhisdziri reveals the long history of occupation of the settlement. The monument shows a diverse array of building techniques that have in common two faces of roughly coursed/uncoursed small-to-medium-sized stone blocks joined together by a core of mortared rubble. In many cases, small fragments of bricks or tiles are inserted into the structure. Both the relative and absolute chronologies of these structural features pose major difficulties. The walls make use of building techniques that are relatively plain and undiagnostic. Inscriptions and reused architectural material that could provide *termini post quem* for their building are absent. Heavy modern restorations have dramatically altered the visibility of the original structure.

In summer 2017, the decision was made to conduct a structural survey of the standing remains at Tsikhisdziri as part of a wider project aimed at illuminating the late antique frontier defensive system of ancient Lazica (Intagliata and Naskidashvili 2017; Intagliata *et al.*, in press). The preliminary results of this survey are discussed below. The survey targeted three wall sections, namely the North Gate (Feature 4), a stretch of the curtain wall of the citadel reinforced by inward projecting buttresses (Feature 1) and the structures connecting the southern with the northern hill (Features 2, 9 and 10). As opposed to the others, these structural features have not been affected, or have been affected only marginally, by modern restorations.

#### **The north gate (Feature 4)**

Autoptic analysis of the North Gate has revealed the existence of at least five construction phases (Fig. 2). In Phase 1, the main core of the gate was built. This consists of a curtain wall constructed with medium-sized stone blocks arranged in irregular courses. No brick bonding is visible in its structure, but reused brick and tile fragments inserted into the wall are common. The sides of the gate are bent at a 90 degree angle to accommodate a wooden door. This could be secured from the inside by a wooden beam set transversally into the walls, the holes for the beam being still visible in the structure. The outer side of this wall was embellished with a cross built of (reused?) bricks and tiles, which is now the most iconic symbol of the site.



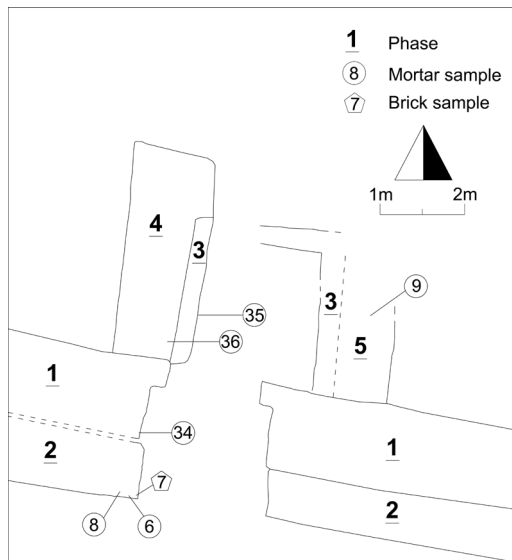


Fig. 2. Plan of the North Gate with location of samples and phasing (pentagons = brick samples; circles = mortar samples).

possibly part of two flanking rectangular towers. The building techniques of phases 3 and 4 present little differences, as they both made use of a core of mortared rubble, faced with uncoursed blocks and reused tiles or bricks insertions. Phase 5 is more diagnostic, as it makes use of much larger blocks brought together by mortar and, again, bricks and tiles inserted into the main structure.

Although the relative chronology of the curtain wall seems to be clear at this preliminary stage of the research, a more detailed understanding of its absolute chronology has yet to be pinpointed with the data at hand. Yet, phases 1 and 2 at least might have a sixth-century AD *terminus post quem* (see below, discussion). The course of the curtain wall carefully avoids the sixth-century phase of the basilica church, suggesting that the latter was already in place when the structure was built. More importantly, further to the north, the wall is built over an existing sixth-century bathhouse (Fig. 3). The intricate and complex construction of the North Gate reflects, therefore, the development of the site and the necessity to maintain the defences already in place well after the sixth-century phase of the settlement.

### The wall in the northwestern terrace (Feature 1)

To the west of the North Gate is a stretch of the circuit that does not seem to share any of the building features described above (Fig. 1). The curtain wall runs for 20 m and is still in a good state of preservation. The main features of the walls are a single arrow slit and three large rectangular buttresses abutting it and projecting southward. The wall consists of two faces of uncoursed small-to-medium blocks. Inserted awkwardly in the structure of the wall are tile

Phase 2 abuts the wall of phase 1 to the south. The consistent use of small stone blocks suggests that this wall is architecturally distinct from that of phase 1. It consists of a curtain wall c. 1.5 m on average with a core of mortared rubble and faces of uncoursed stones. The wall is broken by a gap for the gate, which was topped by a brick arch. Fourteen rows of bricks separated by beds of mortar 2 cm thick on average still survive on the western side of the gate. Bricks do not come in standardised sizes and this suggests a possible reuse. No evidence for the existence of a wooden gate – e.g. holes on the walls for metal clasps – have been detected.

In phase 3, the concern for safety seems to have been more pressing than before, as a vantage court was constructed in front of the gate. In phases 4 and 5, the outer walls of this court were reinforced by much thicker walls to the east and west; these were

and brick fragments, but also entire blocks of reused brick and mortar masonry. This building practice does not seem to be attested elsewhere at the site. The bricks are consistently  $28\text{ cm} \times 28\text{ cm} \times 3\text{ cm}$  in size, a standard that at Tsikhisdziri is attested in the outer wall of the so-called corridor (Feature 2). Although this helps clarify the construction process of Feature 1, its date of construction remains to be pinpointed.



Fig. 3. Bath house built over by phase 1 and 2 of the citadel's ramparts.

### The so-called corridor (Features 2, 9 and 10)

Autoptic examination of the structural feature between the two hills showed a more complex stratigraphic situation. The area encompasses three visible wall sections (Fig. 4). The course of the northern curtain wall (Feature 2) runs straight from one hill to the other. The curtain consists of two faces of loosely coursed small, uncut stone joined together by a core of mortar and rubble. The walls include brick blind arches on the inside that in antiquity would have likely



Fig. 4. The so-called corridor and its features (F.).

supported a wall walk, now lost. The bricks are consistently  $28\text{ cm} \times 28\text{ cm} \times 3\text{ cm}$  in size, therefore suggesting a centrally controlled production of building material for a large-scale construction project. In antiquity, there were no openings through the wall; the major gap visible nowadays is the result of modern destruction. Based on the location of the arches, one can conclude that the wall was constructed to protect access to the coastline and any structure in between.

The western wall (Feature 10), stands much taller and is in a better state of preservation. Although this is often drawn in plans as running parallel to Feature 2 (Fig. 1, redrawn from Inaishvili 1974, pl. 1) its course is more irregular and curvilinear than the latter (cfr. Fig. 4). The wall has been the object of invasive modern restorations for the most part, but the northern portion of this feature remains untouched. This consists of a double-faced wall with uncoursed small-to-medium sized angular and subangular blocks mortared together by a core of rubble. To the south is a gap for a gate, which was flanked by a rectangular tower abutting the wall and protruding towards the sea. Visible square holes at regular intervals along the east face of the wall suggests timber bonding or the use of scaffoldings.

The third feature (Feature 9) stands in a poor state of preservation to the south of Feature 10. This is a short stretch of wall that is today mostly covered by vegetation and has not been restored. The building technique here is the most diagnostic and much different from Feature 10, consisting of a band of bricks atop a lower part in stone blocks mortared together with a core of rubble. Brick bonding (known also as *opus mixtum* in Georgian and other literature) is normally considered a diagnostic feature of early Byzantine structures in western Transcaucasia both in city walls and church architecture (Japaridze 2006: 52-57; Khroushkova 2006: 42-43). However, no narrower chronology for Feature 9 can be pinpointed at this stage. The bricks have the same size of those of the northern wall, suggesting that the two were constructed using the same supply of bricks as part of a single building project. This impression is corroborated by a comparison of thin-sections and XRF results of mortar and brick samples, as detailed below, and because this wall stretches parallel to Feature 2 (*proteichisma*). The fact that Features 4 and 9, run parallel and are built with the same building material suggests the existence of an single defensive system consisting of an outer and inner wall, the latter being replaced by a third feature (Feature 10) at a later stage.

## BRICK AND MORTAR ANALYSES

In 2017, mortar and brick samples were collected from various structures at Tsikhisdziri. A total of 6 mortar samples and seven brick samples were chosen for initial analysis through thin section petrographic and chemical analysis (XRF). The aim of this analysis was to provide further details about the relationship between fired bricks and lime-based mortars employed in distinct structural phases and building programmes. The resulting qualitative and quantitative data derived from this optical and chemical analysis has been used to identify microscopic changes in composition as well as specific technical proficiencies that are unobservable through macroscopic investigation. Furthermore, this approach has helped develop our understanding of the builders' reliance on local or foreign raw materials as well as the methods used to process and apply them.

### Brick samples

The seven thin-sections of brick samples from Tsikhisdziri have been examined using a Amscope PZ300T-5M polarizing microscope at Georgian Technical University in Tbilisi. Two fabric types have been identified based on their unequally-grained fabric. The first is made of

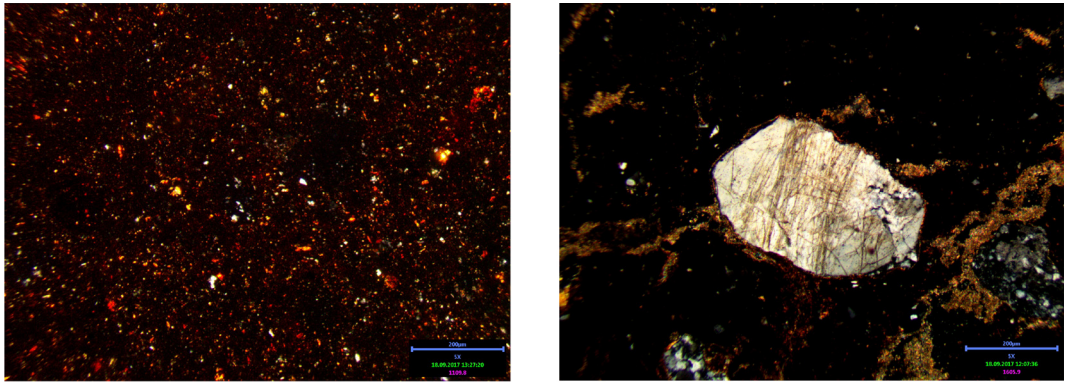


Fig. 5. Types 1 (left: DSL #33) and 2 (right: DSL #7) bricks.

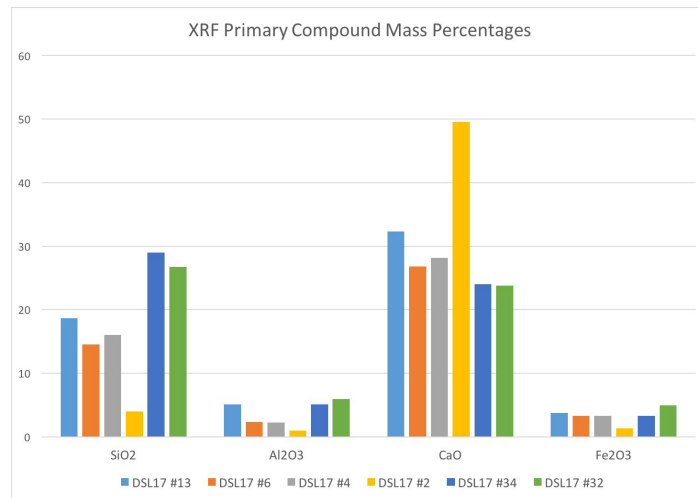


Fig. 6. XRF results showing mass percentage of primary compounds of mortar samples from Tsikhisdziri and Vashnari.

Sample	Large Aggregate		Small Aggregate		Type
	Type	Avg. Ø (mm)	Type	Avg. Ø (mm)	
DSL17 #2	Rounded marl, basalt, mica	2.43	Sub-angular quartz, feldspar	0.26	2
DSL17 #4	Sub-angular basalt	1.52	-	-	3
DSL17 #6	Sub-angular marl, possible ceramic fragment	1.81	Sub-angular quartz, feldspar, basalt	1.02	1
DSL17 #13	Sub-angular ceramic fragment	1.54	Sub-angular hornblende, feldspar, basalt	0.73	1
DSL17 #32	Rounded basalts, hornblende, marl	5.40	Sub-angular quartz, feldspar	0.54	2
DSL17 #34	Rounded marl, feldspar, mollusc shell fragment hornblende; sub-angular basalt	3.71	Under-hydrated lime nodules; sub-angular quartz, feldspar	0.53	2

Fig. 7. Table of selected qualitative and quantitative results from petrographic analysis of mortars from Tsikhisdziri and Vashnari.



relatively small-sized porphyritic secretions. At Tzikhisdziri, this is characteristic of bricks sampled from the narthex of the basilica church (DSL17 #10) and the bathhouse (DSL17 #11). The same fabric was identified in bricks sampled from the outer and inner walls of the so-called 'corridor' (DSL17 #3 and #33). This suggests, therefore, that Features 2 and 9 were constructed in a period in which similar technologies for brick productions were being used for the construction of the bath house and the cathedral. The second fabric type includes large pieces of quartz. This is found at Tsikhisdziri only in phase 2 of the Northern Gate (DSL17 #7) (Fig. 5). As for the remaining two samples, DSL17 #12 (so-called "Turkish Baths") has been collected from a collapsed wall that still has to be fully exposed and DSL17 #5 is from a relatively late cistern. The latter sample would fall within "Type 2", but XRD analyses are needed to reach definitive conclusions on this.

### Mortar samples

10 mm subsamples of the mortar fragments collected at Tsikhisdziri were prepared for XRF using a Niton FXL Field X-ray Lab at the University of Edinburgh. Thin and polished sections were created of further subsamples and photomicrographs were taken using a Leica DM1750 M materials analysis microscope. In addition to qualitative observations, photomicrographs were used to perform optical granulometry using Fiji image analysis software. All mortar fragments were sampled at Tsikhisdziri, with the exception of DSL17 #13, which is from the synthronon of the sixth century church at Vashnari, situated some 15 km inland. This has been collected to explore similarities or differences in mortar between Tsikhisdziri and other sites in the region.

Taking into consideration the results of both XRF and petrographic analysis (Figs. 6-7), a few conclusions can be drawn. The qualitative observations of small aggregate type, regularity and distribution match with the quantitative data showing that DSL17 #6 and #13 are very similar mortars and have been categorised as 'Type 1' (Fig. 8). Similarly, DSL17 #32 and #34 were found to be similar based on the large rounded pebble aggregate inclusions and chemical composition, forming 'Type 2' (Fig. 9). While XRD results were inconclusive for DSL17 #2 based on the abnormally high readings for calcium oxide and low values for silica, alumina, iron oxide, the large rounded aggregate pebbles most closely fall into the 'Type 2' category. XRF results for DSL17 #4 are very similar to those of #6 and #13 but the fabric of the mortar is quite distinct. Due to its composition of uniform basaltic aggregate at a much higher proportion than all other samples, it has been designated as 'Type 3' (Fig. 10).

Regarding the raw materials, it is evident that all samples were using the similar local resources, although in different forms. The consistent use of fine 'sharp sand' aggregate in Type 1 mortars may reflect riverbed sources whereas the large and rounded pebbles found in Type 2 indicate additional weathering consistent with beach deposits. Most, if not all of the small and large aggregate minerals likely derived from the weathering and river sediment transport of the felsic series of trachyandesite-granite found in the Southern Georgia (Adamia 2011). This deposition found along most of the eastern Black Sea coast has been utilised for cement production and foundation fill in the modern construction industry, causing major environmental challenges to the coastal environment (Berkun and Aras 2012).



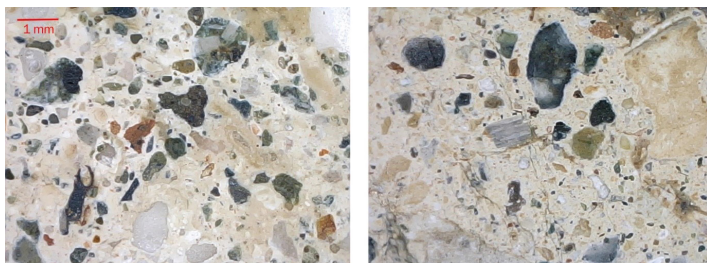


Fig. 8. Type 1 mortars: DSL17 #13 (left) and #6 (right).

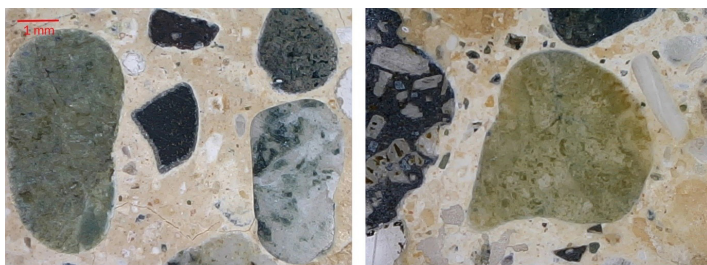


Fig. 9. Type 2 mortars: DSL17 #34 (left) and #32 (right).

2). The brick building technique of this phase is much similar to that of Phase 1, suggesting that the buildings belonging to these phases were built close in time. At a later stage, a second circuit wall was constructed abutting the first one to the south of the North Gate (Phase 3). The technological difference between the two walls of the ramparts of the citadel is confirmed by both mortar and brick analyses; it cannot, therefore, be dated to the same period (*contra* Mania and Natsvlishvili 2013: 282). The relative position of the north wall (Feature 1) is unclear but this must have been constructed when structures of Phase 2 were demolished and quarried for building material, as it makes extensive use of their bricks (Phase 4). The mortar type of this feature is also very different from the rest. Finally, the relative chronology of the later phases of the North Gate (3-5) has yet to be explored.

The absolute chronology remains uncertain. If the bath house and the church (Phase 1) are the results of a sixth century building project (Inaishvili 1993: 12-13) the earliest phase of the citadel walls and the features of the corridor (Phase 2) must be later. Yet, for the latter, a sixth century chronology cannot be excluded at this stage, as mortar from this phase is technologically similar to that collected at the sixth-century church of Vashnari. The use of similar aggregate types in mortars from Tsikhisdziri and Vashnari may support Braund's (1994: 294) postulation that the two sites could have been developed at the same time. While this is not proof of an extensive building project in the region in the sixth century, the distinct aggregates used indicate some form of continuity that was not shown in other features at Tsikhisdziri.

## DISCUSSION

The results presented above allow for a narrower relative chronology of the structures at the citadel at Tsikhisdziri than those achievable through a mere visual examination of the remains. The bath house and the church were constructed before the walls of the citadel, as the former building is built over by the first phase of the ramparts (Phase 1). The outer and inner walls of the so-called corridor, as well as phase 1 of the gate were likely part of a single building project as proven by both mortar and brick analyses (Phase

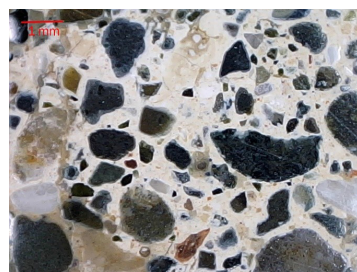


Fig. 10. Sample DSL17 #4 representing Type 3.

## CONCLUSION

The traditional research approach to the study of Classical and Byzantine city walls has mostly been based on the autoptic examination of standing architecture to identify technologically distinct structural phases. This research approach has animated much research but has very rarely been complemented by scientific analyses, despite the significant advances in archaeological sciences of the past couple of decades. We have demonstrated that a high-definition approach to the study of city walls can easily be adopted through relatively low-cost scientific techniques and that this allows for a better understanding of structural phases by taking as case studies the remains at Tsikhisdziri in western Georgia.

The complex structural palimpsest of the fortification walls at Tsikhisdziri with its apparent lack of direct dating evidence such as inscriptions or sculptural/architectural reused material, calls for a careful examination of its remains that do not merely rely on a comparison of building techniques. A more comprehensive research approach to this jigsaw puzzle that includes analytical analyses on brick and mortar, and which is still at its preliminary stage, has allowed us to narrow down the relative chronology of those sections of its city walls that have not undergone extensive modern restorations. We conclude that the walls of the citadel are the result of a complex structural history that cannot solely be confined to the sixth century. The works on the city walls of Tsikhisdziri have, therefore, helped cast light on neglected phases of the site, opening many questions on the role of this settlement after the events recounted by Procopius.

## REFERENCES

- Adamia, S., G. Zakariadze, T. Chkhotua, N. Sadradze, N. Tsereteli, A. Chabukiani and A. Gventsadze, 2011 — Geology of the Caucasus: a review. *Turkish Journal of Earth Sciences* 20(5): 489-544.
- Berkun, M., and E. Aras, 2012 — River sediment transport and coastal erosion in the southeastern Black Sea rivers/Transport riečnych sedimentov a erózia pobrežia riek krajiny v juhovýchodnej časti čierneho mora. *Journal of Hydrology and Hydromechanics* 60(4): 299-308.
- Birch, T., M. Blömer and F. Sulas, in preparation — High-definition approaches to the Archaeology of Urbanism. Routledge.
- Blanco Rotea, R., P. Mañanas Borrazás and X.M. Ayán Vila, 2003 — Archaeology of Architecture: theory, methodology and analysis from landscape archaeology. In: X.M. Ayán Vila, R. Blanco Rotea and P. Mañanas Borrazás (eds.), *Archaeotecture. Archaeology of*

- architecture (BAR International Series 1175): 17-39. Oxford: Archaeopress.
- Brasse, C., and S. MÜth, 2016 — Mauerwerksformen und Mauerwerkstechniken. In: S. MÜth, P.I. Schneider, M. Schnelle and P.D. De Staebler (eds.), *Ancient fortifications – a compendium of theory and practice*: 75-100. Oxford: Oxbow.
- Braund, D., 1994 — *Georgia in antiquity: a history of Colchis and Transcaucasian Iberia, 550 BC-AD 562*. Oxford: Clarendon Press.
- Darrouzès, J.A.A., 1981 — *Notitiae Episcopatum Ecclesiae Constantinopolitanae. Texte Critique, Introduction et notes*. Paris: Institut Français d'Études Byzantines.
- Fedalto, G., 1988 — *Hierarchia Ecclesiastica Orientalis*, Vol. 1. *Patriarchatus Constantinopolitanus*; Vol. 2. *Patriarchatus Alexandrinus, Antiochenus, Hierosolimitanus*. Padova: Edizioni Messaggero.
- Inaishvili, A., 1974 — *Petra-Tsikhisdziri 1962-1965 tslebshi chatarebuli gatkhrebi shedegebi. Samkhret-dasavket sakartvelos dzeglebi* 4: 102-153.
- Iashvili, I., and W. Seibt, 2006 — Byzantinische Siegel aus Petra in Westgeorgien. In: J.-C. Cheynet and C. Sode (eds.), *Studies in Byzantine Sigillography*, Vol. 9: 1-9. Berlin: De Gruyter.
- Inaishvili, N., 1993 — *Tsikhisdziris akh. ts. I-VI saukuneebis arkeologiuri dzeglebi*. Unpublished PhD diss., Tbilisi.
- Inaishvili, N., and N. Vashakidze, 2010 — Typology and Chronology of Greek, Roman and Early Byzantine Amphorae from Petra-Tsikhisdziri. In: D. Kassab Tezgör and N. Inaishvili (eds.), *Patabs I. Production and Trade of Amphorae in the Black Sea. Actes de la Table Ronde internationale de Batoumi et Trabzon*, 27-29 avril 2006: 151-152. Istanbul: Institut Français d'Études Anatoliennes-Georges Dumézil.
- Intagliata, E.E., and D. Naskidashvili, 2017 — *Forgotten borderlands. Guria and Adjara survey project. Heritage Turkey* 7: 15-16.
- Intagliata, E.E., D. Naskidashvili and R.J. Snyder, in press — Preliminary report of the “Forgotten Borderlands” project in Guria and Adjara (Georgia). Notes on the results of the structural survey at Tsikhisdziri. In: *Proceedings of the 2018 International Conference on the Archaeology of the Near East (ICAANE) 2018*.
- Japaridze, V., 2006 — *Egrisi I-VII ss. materialuri kulturis dzeglebi (arkeologiuri gatkhrebi, gamokvleva)*. Tbilisi: Otari Lordkipanidze Centre for Archaeological Studies.
- Kakhidze, A., and S. Mamuladze, 2016 — *Archaeological monuments in Ajara*. Tbilisi: Cezanne.
- Khrushkova, L., 2006 — *Les monuments chrétiens de la côte orientale de la Mer Noire. Abkhazie, IV-XIV<sup>e</sup> siècles*. Turnhout: Brepols.
- Ley, J., E. Richter and B. Jansen, 2016 — *Die Dokumentation vor Ort: Methodik und Organisation*. In: S. MÜth, P.I. Schneider, M. Schnelle and P.D. De Staebler (eds.), *Ancient fortifications – a compendium of theory and practice*: 24-39. Oxford: Oxbow.
- Liu, X., X. Ma and B. Zhang, 2015 — Analytical Investigations of Traditional Masonry Mortars from Ancient City Walls Built during Ming and Qing Dynasties in China. *International Journal of Architectural Heritage* 10(5): 663-673.
- Mania, I., and N. Natsvlishvili, 2013 — Littoral fortifications in South-West Georgia. In: K. Flora (ed.), *Medieval ports in North Aegean and the Black Sea: links to the maritime routes of the East*; International Symposium, Thessalonike, 4-6 December 2013; *Proceedings*: 276-283. Thessalonike: European Centre for Byzantine and post-Byzantine monuments.
- MÜth, S., 2016 — Urbanistic functions and aspects. In: S. MÜth, P.I. Schneider, M. Schnelle and P.D. De Staebler (eds.), *Ancient fortifications – a compendium of theory and practice*: 159-172. Oxford: Oxbow.

## TAŞELİ-KARAMAN ARCHAEOLOGICAL PROJECT, THE 2018 SEASON

Tevfik Emre Şerifoğlu and Hatice Gül Küçükbezci\*

### *Abstract*

*This article presents results from the second season of the Taşeli-Karaman Archaeological Project (TKAP), which is a multi-disciplinary landscape archaeology project conducted in the Mersin and Karaman provinces of Turkey. TKAP forms a continuation of the Lower Göksu Archaeological Salvage Survey Project (LGASSP), which was initiated in 2013 in the Mersin Province of Southern Turkey as a response to the construction of a hydroelectric dam in the concerned valley and concluded in 2017. The very short 2018 season solely focused on the Karaman Plain in order to document the major archaeological sites and to better understand the natural and cultural landscapes surrounding them. Our team revisited the major sites in the region to conduct systematic surveys, continuing the work that was started in 2017. Hereby a summary of the season with brief discussions about the local material culture and settlement patterns is presented. The second season of TKAP, which is a Bitlis Eren University and the University of Leicester joint project, could be conducted with a grant awarded by the board of the Gerald Averay Wainwright Fund (Faculty of Oriental Studies, University of Oxford).*

### INTRODUCTION

The second season of the Taşeli-Karaman Archaeological Project (TKAP), which is a multi-disciplinary landscape archaeology project that aims to study the whole Taşeli Peninsula and the southern edge of the central Anatolian Plateau, was conducted in September 2017 and only focused on the Karaman Plain. Unfortunately, the season had to be kept short and a planned October season had to be cancelled as none of the non-Turkish project members could attend the fieldwork because their official permits could not be issued on time. During the six days long season 13 archaeological and one geological site could be visited for general observations and systematic surveys (Fig. 1). Therefore, this very short season had more of a preparatory nature and can be seen as a continuation of the Lower Göksu Archaeological Salvage Survey Project, investigating an area just to the north of the Göksu River Basin (Şerifoğlu *et al.* 2014; 2015a; 2015b; 2016; 2017; Şerifoğlu 2017; Şerifoğlu *et al.* 2018).

The 2018 field season took place between 9<sup>th</sup> and 14<sup>th</sup> September 2018 with a very small team that included Tevfik Emre Şerifoğlu (director), Hatice Gül Küçükbezci (pottery expert) and Nazlı Evrim Şerifoğlu (illustrations and photography). Özgür Topbaş from the Silifke Museum joined us as the representative of the Ministry of Culture and Tourism of Turkey.

---

\* Uppsala University and Selçuk University.



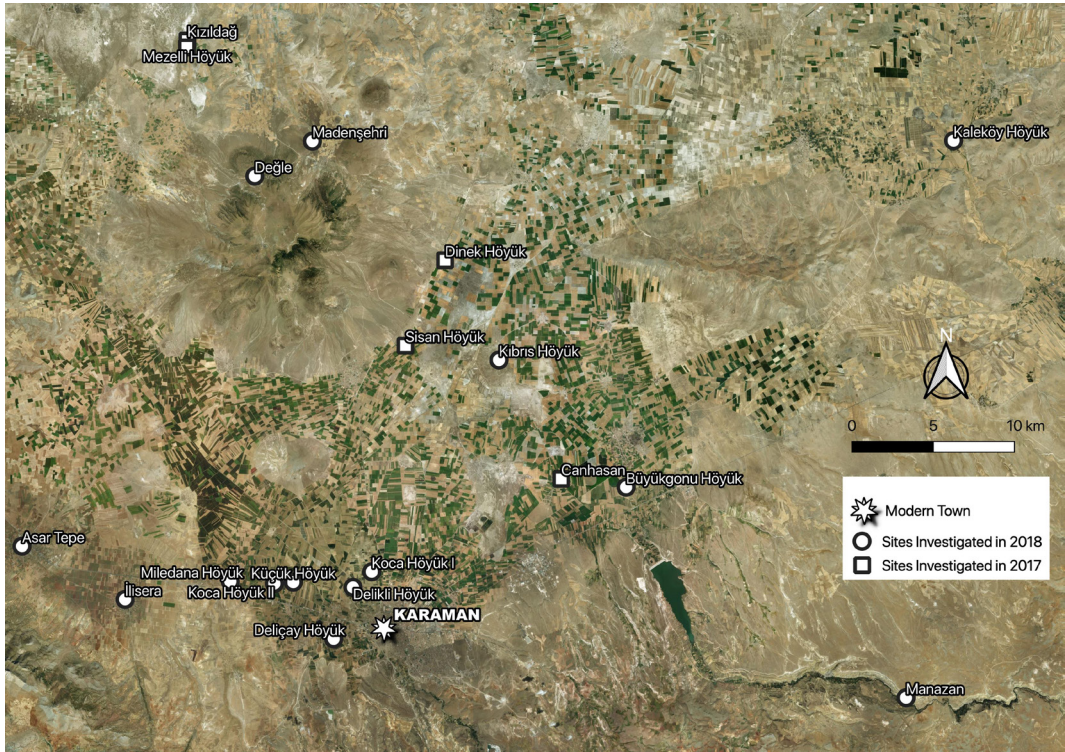


Fig. 1. Map of the Karaman Plain showing the sites that were documented in 2017 and 2018 (map by T.E. Şerifoğlu).

#### EARLIER ARCHAEOLOGICAL RESEARCH IN THE KARAMAN PLAIN

Particularly since the late 18<sup>th</sup> century, the Karaman region has attracted the interest of travellers such as G.A. Olivier, Léon de Laborde, W.M. Leake, W.J. Hamilton, Ch.F.M. Texier and E.J. Davis (Kurt 2011: 16; Leake 1824: 95-101; Hamilton 1842: 310-321, 325-327; Kurt 2011: 16-17; Davis 1879: 273 ff.). A majority of these travellers was particularly interested in Byzantine art and architecture, and paid visits to Byzantine monastic sites or settlements including Madenşehir, Binbir Kilise and Divle. Towards the end of the 19<sup>th</sup> century, studies with a more scientific nature started to be carried out in the region. J.R.S. Sterrett, T. Callander, D.G. Hogarth, W.M. Calder, and J.M.R. Cormack, conducted epigraphical studies in Karaman (Sterret 1888: 14 ff.; Callander 1906: 163-164, 170, 178; Hogarth 1890; Kurt 2011: 19). W.M. Ramsay and G. Bell conducted extensive surveys in the region and conducted excavations at sites on Mt. Karadağ in early 20<sup>th</sup> century (Ramsay 1909: 255-267; Ramsay and Bell 2008). Studies focusing on Byzantine and Medieval periods were to be continued later by S. Eyice who worked at Madenşehir, Fisandon, Manazan, Güldere, İbrala and Binbir Kilise (Kurt 2011: 19-20).

Research that aimed to enlighten the prehistoric and protohistoric periods of the region were only started in the 1950s. Mounds were the focal point of research in the region



when Pre-Hellenistic periods are concerned. J. Mellaart studied the Prehistoric and 2<sup>nd</sup> millennium BC pottery cultures of the Konya Plain in the 1950s and 1960s, and Karaman Plain was included in his studies (Mellaart 1958; Mellaart 1961; Mellaart 1963). S. Güneri concentrated more on the northern and western parts of the Karaman Plain during a survey project he conducted at the end of the 1980s (Güneri 1989). These studies focused particularly on mounds with archaeological finds dated to the 3<sup>rd</sup> and 2<sup>nd</sup> millennia BC.

After a hiatus, H. Bahar conducted archaeological surveys in the region from 1999 to 2012. These studies focused mainly on the areas surrounding Karaman city centre and on the district of Kazımkarabekir (Bahar and Koçak 2004: 54) but he also carried out less intensive studies in the Ermenek and Sarıveliler districts on the Taşeli Plateau and in the Ayrancı district at the eastern edge of the province (Bahar 2006: 99; Bahar 2008: 240-242; Bahar 2011: 309-310; Bahar and Küçükbezci 2012: 106-107; Bahar 2014: 261-262).

More recently, Y. Kamış started a survey project in the region that focuses on the 3<sup>rd</sup> and 2<sup>nd</sup> millennia BC but his work has solely concentrated on Eminler Höyük until now (Kamış 2018). E. Aşkın also started a survey project in the region and his work focuses on Hellenistic and later periods (Aşkın *et al.* 2016).

Only two excavation projects were carried out in the Karaman region up until today when pre-Hellenistic periods are concerned. One of these was the Canhasan Höyük excavations conducted by D. French who also participated in J. Mellaart's surveys in the Karaman Plain (French 1962; French 1964; French 1967; French 1968). The other project was the Pınarbaşı excavations, conducted at an Epipaleolithic site to the northwest of Mt. Karadağ (Watkins 1995: 9-11; Fairbairn *et al.* 2014: 802; Baird 2012). This project was co-directed by D. Baird and T. Watkins, and conducted jointly with the Karaman Museum.

## SECOND SEASON OF PRELIMINARY INVESTIGATIONS IN THE KARAMAN PLAIN

TKAP team mainly focused on the area surrounding Mt. Karadağ in 2017 and our team visited, investigated and documented sites including Canhasan, Sisan Höyük, Dinek Höyük, Mezelli Höyük and Kızıldağ, conducting photogrammetric modelling work at the latter (Şerifoğlu *et al.* 2018). Building upon the work that was started in 2017, the team investigated a larger area stretching from the town of Kazımkarabekir to the town of Ayrancı in 2018, and visited one geological and 13 archaeological sites in total.

Asar Tepe, which is located at the centre of the modern town of Kazımkarabekir, was the westernmost site that was documented in 2018. The mound is also referred to as Asarlık and Gaferiyat by the locals and earlier publications. As almost the whole mound except its summit is covered with modern buildings and streets, no archaeological material except a few number of sherds could be found here which we could date to the Byzantine and Medieval periods based on their general characteristics.

The mound of İlisira, which is believed to be where ancient Lystra was located, is at the northern edge of the town of Yollarbaşı, on the way between Kazımkarabekir and Karaman (Kurt 2011: 87-89). The mound was heavily damaged not only by modern structures on top of it in-

cluding a tea house, a water reservoir and a pool, but also by Byzantine structures which are also in ruins today. The pottery sherds found at and around the site indicate that the mound was settled at least from the Middle Iron Age until the Byzantine period although some sherds, which may be Late Bronze Age in date, point to an earlier date for the foundation of the earliest settlement.

The majority of archaeological sites visited and documented during the 2018 season were in the vicinity of the modern town of Karaman. These sites included Miledana (Masara) Höyük, Küçük Höyük, Koca Höyük I, Koca Höyük II, Deliçay Höyük and Delikli Höyük. Miledana (Masara) is a mound to the south of the village of Bölük yazı which spreads to an area approximately 6 hectares in size. The mound was occupied from the Early Bronze Age until the Roman Period. The twin mound of Koca Höyük II, which is located approximately 2.5 km east of Miledana, was occupied from the Chalcolithic period until the end of the Iron Age, and spreads to an area of 13 hectares (Fig. 2).



Fig. 2. Koca Höyük II (photo by N.E. Şerifoğlu).

The mound of Küçük Höyük, which was first discovered by our team in 2018 is located 1 km east of Koca Höyük II. This small mound with a size of 3 hectares was occupied from the Chalcolithic period until the Middle Bronze Age judging from the small number of sherds that could be found on and around it.

Deliçay Höyük is another small mound located in this part of the Karaman Plain. The mound, which is 2 hectares in size, is located approximately 2 km west of Karaman town centre (Fatih District). Unfortunately, the mound was heavily damaged by agricultural activities. The site was occupied from the Early Bronze Age until the end of the Iron Age.

Delikli Höyük is a very small mound which is located 2 km to the northwest of Karaman town centre (Hacı Celal District). This site was also largely damaged as a result of intensive agricultural activities and the modern mound is only 1 hectare in size. The pottery sherds from the site indicate that the mound was only occupied from the Chalcolithic period until the end of the Early Bronze Age.

One final mound situated in the vicinity of Karaman town centre and not very far from Delikli Höyük is Koca Höyük I. This multi-mound site, which is formed by three or maybe even four mounds, occupies an area of 8 hectares and was inhabited from the Chalcolithic period until the end of the Iron Age. However, a few number of Medieval sherds recovered by our team indicate that the site may have been shortly occupied during that period as well.



Fig. 3. The main mound of Kıbrıs (Kanaç) Höyük with Mt. Karadağ in the background (photo by N.E. Şerifoğlu).

Kıbrıs (Kanaç) Höyük is one of the most extensive archaeological sites in the Karaman Plain. This multi-period site, which is located between the villages of Beydili and Hamidiye, and to the southeast of Mt. Karadağ, consists of three (or probably four) mounds (Fig. 3). The total size of the area that the archaeological site occupies is approximately 60 hectares. The pottery sherds from the mounds indicate that the site was inhabited from the Chalcolithic until the Medieval Period. We believe that Kıbrıs (Kanaç) Höyük was the regional capital of this part of the plain throughout most of history both because of its extraordinary size and the long-term occupation of the site. Unfortunately, our team could only devote a small portion of the 2018 season to the investigation of this enormous site and its surroundings but we intend to do more work in 2019.

Büyükgonu Höyük is yet another multi-mound site located in the Karaman Plain (Fig. 4). The site, which spreads to an area of 6 hectares, is located just to the south of the village of Sudurağı. The sherds found on and around the site indicate that Büyükgonu was first settled during the Middle Iron Age and was occupied until the Medieval Period.



Fig. 4. A view of Büyükgonu Höyük (photo by N.E. Şerifoğlu).

The work conducted on Mt. Karadağ in 2018 was limited to visits to the villages of Madenşehir and Değle (Binbir Kilise), both of which have extensive Byzantine architectural remains (Eyice 1971; Ramsay and Bell 2008). However, our main aim during these visits was to investigate if any Pre-Byzantine archaeological material could be detected in and around these Byzantine period sites.

A geologically unique area when compared to the areas surrounding it, which is located to the northwest of Madenşehir, was investigated for evidence of ancient human activity. Byzantine and Medieval pottery found with stone building materials in the area are indications of this area being used as a stone quarry during these periods. Besides this work, our investigations at the village of Değle enabled us to find some sherds that may belong to the Middle and Late Iron Ages indicating that the site may have been inhabited also before the Byzantine Period. In fact, this is where Gertrude Bell claims a Luwian rock cut throne existed near a church also pointing to a pre-Byzantine occupation of the site (Ramsay and Bell 2008: 511).

Our team also paid a short visit to the Manazan Caves, which are believed to be inhabited mainly during the Byzantine period (Kurt 2012: 99-100). The rock cut chambers, rooms and tunnels were carved into the face of a rock outcrop near the village of Taşkale which is located approximately 35 km southeast of Karaman city centre and 25 km south of Ayrancı town centre. No archaeological material, which could be dated to pre-Byzantine periods, could be found here.

The easternmost archaeological site visited and documented by the TKAP team was Kaleköy Höyük (Kurt 2011: 89-90). This is a mound situated on top of a natural hill just to the north of Kaleköy village which is located 12 km to the northwest of Ayrancı town centre. Kaleköy Höyük was settled from the Middle Iron Age until the end of the Byzantine period based on pottery sherds present on the surface. However, some pottery sherds may actually belong to the Late Bronze Age which points to an earlier date for the foundation of the settlement.

#### A GENERAL EVALUATION OF THE PRE-HELLENISTIC POTTERY FROM THE DOCUMENTED SITES AND INDICATIONS OF CULTURAL INTERACTIONS WITH SURROUNDING REGIONS

Although we have documented every archaeological site that we came across during fieldwork without considering the chronological periods the concerned sites were occupied, our team was actually only allowed to study Pre-Hellenistic archaeological material in detail because of the nature of the official permit issued by the Ministry of Culture and Tourism of Turkey which enabled us to conduct fieldwork in the first place. As a part of TKAP, visits were made to 14 sites in 2018 most of which were mounds. As indicated earlier, the majority of scholars, who have previously carried out research in the Karaman Plain, have focused on the Chalcolithic, Early Bronze Age and Byzantine periods, and therefore the cultures of the 2<sup>nd</sup> and 1<sup>st</sup> millennia BC in the region were studied more superficially. Studies dealing with the Iron Age pottery traditions are very few although many Iron Age sites were actually discovered during the survey projects. As the main objective of the surveys conducted by J. Mellaart and S. Güneri were to investigate and answer questions about earlier periods, they did not refer to the Iron Age findings in detail (Mellaart 1961; 1963; Güneri 1989).

Pottery from the Late Chalcolithic period and the Early Bronze Age were discovered at many archaeological sites our team visited during the 2018 field season. These were typical wares of the Late Chalcolithic Period and the Early Bronze Age that are known from almost every part of the Konya Plain. Many of the pottery forms from the Early Bronze Age reflect a continuation of the forms known from the Late Chalcolithic period.



The majority of the Early Bronze Age pottery types from the Konya and Karaman plains are handmade as wheel-made pottery appeared only during the final phase of the period (Küçükbezi 2012: 70). The fabrics of the pottery examples from the period generally have a brown or light reddish colour and they were mostly slipped with different tones of red or brown. Typical examples of the red slipped ware pottery were discovered at Koca Höyük I, Koca Höyük II, Deliçay Höyük, Delikli Höyük and Kıbrıs (Kanaç) Höyük in the Karaman Plain (Fig. 5).

Interestingly, the red coloured slip on some of the pottery sherds we came across in the Karaman Plain and some found earlier in the neighbouring parts of the Konya Plain (mainly Çumra) has more of a red-plum colour unlike the typical red slip found in other parts of the Konya Plain (Mellaart 1963: 211). Sherds with this specific colour were found particularly at Koca Höyük II, Delikli Höyük and Küçük Höyük.

In addition to the red slipped examples there are also black slipped Early Bronze Age pottery examples known from the Konya and Karaman plains (Mellaart 1963: 211 ff.). Best examples of this variation were found at Kocahöyük I and Kocahöyük II.

Bowls and jugs were the most common forms for examples of these slipped wares. Slip was applied both to the interior and the exterior surfaces of the bowls, and only to the exterior surfaces of jugs except for the visible parts of the interior sides of their rims. Examples of this pottery type were found commonly in the Çumra and Karaman mounds during earlier surveys (Mellaart 1963: Figs. 8, 11, 12/1-3; Bahar and Koçak 2004: Figs. 11/1-4, 17/2, 17/4, 18/7-8, 20/10, 21/3). Burnished examples of the red and black slipped wares are also a common discovery in the region. Burnish generally appears on the slipped parts of the pottery.

Another Early Bronze Age pottery group that our team came across on mounds visited in 2018 was what was defined earlier as coarse ware (Mellaart



Fig. 5. Early Bronze Age slipped ware pottery examples from Koca Höyük II (photo by N.E. Şerifoğlu).

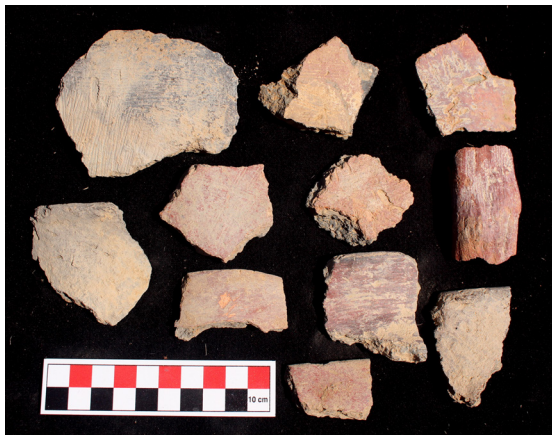


Fig. 6. Early Bronze Age coarse ware pottery examples from Koca Höyük II (photo by N.E. Şerifoğlu).

1963: 226). The fabric of this ware is mainly brown and buff. The majority of examples has a darker core which indicates that they were underfired. Colours of the slips applied on these ranged from greyish-brown to red (Fig. 6).

In general, no finishing treatments were applied to the surfaces of most of the coarse ware examples. However, surfaces of some of the sherds found at Koca Höyük I, Koca Höyük II and Kıbrıs (Kanaç) Höyük appeared to be decorated with the help of a tool resembling a brush. In addition to other mounds in Karaman including Akçaşehir and Emirler, examples of this type of Early Bronze Age pottery, which J. Mellaart identified as scored ware, were also found at mounds in neighbouring areas such as Çumra and Karatay (Mellaart 1963: 209, 224-225).

Metallic Ware, as referred to in previous literature, is another group of Early Bronze Age pottery type from the Karaman Plain that aroused interest. Some sherds that may belong to metallic ware pottery were discovered at Koca Höyük I during fieldwork in 2018. Examples of this ware, which are dated to the Early Bronze Age II period, were discovered in the past at various sites in the Karaman and Ereğli-Bor Plains, in the Göksu Valley further to the south (Mellaart 1963: 211; Güneri: 128), and in the districts of Konya including Karapınar, Çumra, Meram, Selçuklu and Karatay (Bahar and Koçak 2004: 66-67).

Sites visited by our team during the 2018 field season were relatively poor in terms of 2<sup>nd</sup> millennium BC archaeological material. Although few in number, 2<sup>nd</sup> millennium BC pottery sherds were found at Koca Höyük II, Deliçay Höyük, Koca Höyük I and Kıbrıs (Kanaç) Höyük. The majority of these sherds belonged to bowls. These examples have a fine clay fabric with a colour reflecting different tones of buff and brown, and the slip has the same colour with the clay. Most of the recovered examples have a matt surface and were hard-fired.

No Early Iron Age archaeological material could be found at sites visited during the 2018 season, which may be because we somehow cannot identify the pottery from this period or because we date them wrongly, unless the absence of the Early Iron Age material is a reflection of an actual political or socio-economic event that resulted with a temporary abandonment of settlements which we find unlikely when this region is concerned. Unlike the Early Iron Age, the Middle and Late Iron Ages were represented at most of the mounds that were visited in 2018. There was especially a density of Middle and Late Iron Age material at Kıbrıs (Kanaç) Höyük, Deliçay Höyük and Koca Höyük II. Pottery sherds belonging to these periods can be classified under the general groups of monochrome and decorated wares, and all the recovered examples were wheel-made.

The clay fabric of most of the monochrome ware sherds either have a brown colour or reflect tones of red (usually close to brick red). On the other hand, examples of decorated ware usually have a sandy clay fabric with a brown



Fig. 7. Middle and Late Iron Age decorated ware pottery examples from Koca Höyük II (photo by N.E. Şerifoğlu).

colour. Slips applied on these examples mostly have a cream or light red colour. Decorations including dark coloured bands and wavy lines are typical (Fig. 7). Many similar Iron Age pottery examples were reported from Kızıldağ, Süleymanhacı Höyük, Okçu Höyük, Seydişehir Höyük and Çumra-Cicek Höyük when the wider region is concerned (Bahar and Koçak 2004: 79-83, Figs. 55, 57, 58, 65, 66).

Pottery sherds from the Hellenistic, Roman and Late Roman periods were also found on mounds that were visited in 2018. Kıbrıs (Kanaç) Höyük, Büyükgonu Höyük, Kaleköy Höyüğü, İlisera Höyük and Miledana Höyük provided examples that could be dated to all the periods mentioned above.

#### SETTLEMENT PATTERNS AND LAND USE IN THE KARAMAN PLAIN THROUGH THE AGES

The two short fieldwork seasons the TKAP team conducted in the Karaman Plain have provided information which is far from being complete. We hope to continue our visits to known sites and discover currently unknown archaeological sites in the coming years but we believe that we can start discussing the changing settlement patterns with the limited data we have which can be developed with further fieldwork.

We have documented 19 archaeological sites and one geological site in two seasons of which all except one (Küçük Höyük) were already known sites, studied by various scholars including J. Mellaart, D. French, S. Güneri, H. Bahar, Ö. Koçak and M. Kurt in the past (Mellaart 1954; 1955; 1958; 1961; 1963; Güneri 1989; French 1998; 2005; 2010; Bahar 1999; Bahar and Koçak 2004; Kurt 2011). The sites with the earliest archaeological material documented by the TKAP team are Koca Höyük I, Koca Höyük II, Küçük Höyük, Delikli Höyük and Kıbrıs (Kanaç) Höyük, all of which had Chalcolithic material. We also visited and briefly investigated Canhasan mounds which we already knew to have been inhabited during the Neolithic and Chalcolithic periods (French 1998; 2005; 2010; Şerifoğlu *et al.* 2018: 169). It should also be noted here that J. Mellaart claimed that Koca Höyük II also had Neolithic material although we were not successful in safely dating any archaeological material to that period (Mellaart 1961: 161).

The number of sites in the plain increased with the Early Bronze Age like in many other parts of Anatolia. The Early Bronze Age sites documented by our team include Koca Höyük I, Koca Höyük II, Küçük Höyük, Delikli Höyük, Kıbrıs (Kanaç) Höyük, Sisan Höyük and Deliçay Höyük (Şerifoğlu *et al.* 2018: 170). In addition to these, J. Mellaart claimed that Asar Tepe, İlisera, Büyükgonu Höyük and Canhasan had Early Bronze Age material, which was supported by the work of H. Bahar and Ö. Koçak at Asar Tepe and İlisera, and by the work of S. Güneri at Büyükgonu Höyük, although it should be noted here that H. Bahar recorded Asar Tepe as Hisar Höyük (Mellaart 1963: 208-209; Güneri 1989: 99; Bahar and Koçak 2004: 54; Bahar 2005: 344-345). S. Güneri also recorded Miledana as one of the Early Bronze Age sites of the region (Güneri 1989: 102).

Therefore, it can be said that all the Chalcolithic settlements of the Karaman Plain that we documented survived into the 3<sup>rd</sup> millennium BC and new ones were added to them

during this period pointing to an increase in population and a changing socio-economic system. However, the Early Bronze Age III pottery types, which are known to be predominantly wheel-made unlike the earlier Early Bronze Age II pottery types, are somewhat absent from our repertoire and this either points to a phase of temporary abandonment of sites or we may be unsuccessful in identifying pottery types from this final phase of the Early Bronze Age which have resulted with a misinterpretation of the archaeological evidence.

The 2<sup>nd</sup> millennium BC settlements that our team recorded in 2017 and 2018 include Koca Höyük I, Koca Höyük II, Küçük Höyük, Kıbrıs (Kanaç) Höyük, Sisan Höyük, Deliçay Höyük, Kızıldağ, İlisera and Kaleköy Höyük (Şerifoğlu *et al.* 2018: 170-171). In addition to these, S. Güneri recorded Asar Tepe and Büyükgonu Höyük as 2<sup>nd</sup> millennium BC sites although our team was not able to confirm that (Güneri 1989: 99, 101). In general terms, it looks like almost all the 3<sup>rd</sup> millennium BC settlements also survived into the 2<sup>nd</sup> millennium BC and there is no evident increase in settlement numbers during this period. Of course, it should be taken into account that there may have been small settlements founded in the territories surrounding the large mounds during the Middle and Late Bronze Ages that were damaged or fully destroyed because of intensive agricultural activities in modern times.

Interestingly, our team could not find any archaeological material that can be safely dated to the Early Iron Age at any of the sites that were visited, and this is more or less the case for all the other scholars who worked in the area in the past. Only H. Bahar and Ö. Koçak claim that İlisera had Early Iron Age material (Bahar and Koçak 2004: 54). This is probably because we still don't know the Early Iron Age material well enough to define them when found during field surveys or because we wrongly attribute the Early Iron Age material to earlier or later periods. Therefore, when we talk about the Iron Age of the Karaman Plain, we mainly refer to the Middle and Late Iron Age periods in this paper.

Iron Age sites that our team visited and documented, include Koca Höyük I, Kıbrıs (Kanaç) Höyük, Sisan Höyük, Deliçay Höyük, Kızıldağ, İlisera, Kaleköy Höyük, Büyükgonu Höyük, Dinek Höyük, Mezelli Höyük and Değle (Şerifoğlu *et al.* 2018: 170-171). It can be seen that most of the 2<sup>nd</sup> millennium BC sites actually survived into the 1<sup>st</sup> millennium BC and a few new ones were added to them during this period. In fact, almost all of these sites also contained pottery sherds that we identified as Hellenistic and Roman except for Koca Höyük I, Deliçay and Değle, which clearly shows that there is a continuity at least in terms of settlement patterns, land use and socio-economic system all through the 1<sup>st</sup> millennium BC. The only site, which we believe to be mainly settled during the Hellenistic and Roman periods without having earlier beginnings is Miledana but as mentioned earlier, S. Güneri claims that the site contained 3<sup>rd</sup> and 2<sup>nd</sup> millennia BC material although he also does not mention the existence of any Iron Age cultural material here.

The Late Roman and Byzantine periods mark a change in settlement patterns and land use in most of Anatolia, as also manifested by our work in the Göksu Valley further to the south where farmsteads were understood to have gradually covered the whole landscape during the concerned periods (Şerifoğlu *et al.* 2015b: 246-250; Şerifoğlu 2017: 289-290). Many of the Hellenistic and Roman settlements in the Karaman Plain actually survived into the Late Roman and Byzantine periods including Kıbrıs (Kanaç) Höyük, Sisan Höyük, Kızıldağ,



İlisera, Kaleköy Höyük, Büyükgonu Höyük, Dinek Höyük, Mezelli Höyük and Değle, but new ones like Madenşehir, Manazan and Asar Tepe also joined them although Bahar, Güneri and Mellaart claim an earlier date for the foundation of the latter (Mellaart 1963: 208-209; Güneri 1989: 101, Bahar 2005: 344-345; Şerifoğlu *et al.* 2018: 170-171).

We could not define any Late Roman or Byzantine farmsteads or detect a sudden increase in the number of small settlements in the Karaman Plain during this period, so it is hard to talk about a radical change in the socio-economic system of this region. However, such sites may well be lost or mostly demolished because of intensive farming activities and further systematic fieldwork may allow us to detect such sites. We believe that most of the Late Roman and Byzantine sites that we documented must have survived into the Medieval period although our team only came across Medieval material at Koca Höyük I, Kıbrıs (Kanaç) Höyük, Sisan Höyük, Büyükgonu Höyük, Değle, Madenşehir, Manazan and Asar Tepe (Şerifoğlu *et al.* 2018: 170).

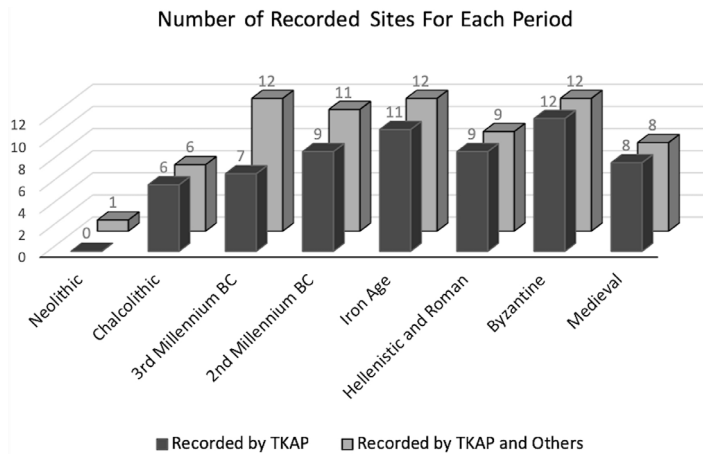


Fig. 8. Number of sites for each period recorded during the 2017 and 2018 fieldwork seasons of TKAP and during earlier fieldwork conducted in the same area (column chart by T.E. Şerifoğlu).

It can be understood from the current evidence that there was a gradual increase in the number of settlements in the Karaman Plain over time (Fig. 8). The settlements were evenly distributed throughout the landscape although there is a higher number of sites in the alluvial plain to the south and southeast of Mt. Karadağ and many sites are clustered around the main land route that connected the lands to the west to Ereğli and beyond.

The earliest settlements in the Karaman Plain were founded during the Neolithic period and the archaeological evidence suggests that the number of settlements kept on increasing gradually until the Hellenistic Period. Therefore, many sites were inhabited almost continuously and were somehow not affected by the regional political or economic developments in a serious way. Even if there were actually phases of abandonment of sites during the Early Bronze Age III and Early Iron Age, these were temporary and did not affect the socio-economic system seriously or resulted with a very clear cultural break. However, there is a slight drop in the number of settlements during the Hellenistic and Roman Periods and this might be related to socio-economic changes, climatic problems or political events. The decrease in the number of archaeological sites might also be an indication of abandonment of settlements in favour of moving to regional centres, unless the archaeological data is misleading, and we are yet to find more Hellenistic and Roman sites in the future.

The number of settlements started to increase again during the Byzantine Period, when we know from the Göksu Valley that small settlements and farmsteads covered previously less densely inhabited areas, and the land was started to be used for agricultural activities more intensively (Şerifoğlu *et al.* 2015b: 246-247; Şerifoğlu 2017: 289-290). The drop in the number of settlements during the Medieval Period may once again be related to socio-economic, political or climatic problems but it may well be a result of misinterpretation of the currently available archaeological data or the lack of data for this period from the region as neither TKAP nor earlier projects focused on this period in the way it deserves.

The inhabitants of the Karaman Plain probably had an economic system mainly relying on agriculture as the fertile, marshy soils of the Karaman Plain must have enabled them to get high annual crop yield and provided the basis of a strong economy. Besides this, the region linked the Konya Plain and the western parts of Anatolia to Cilicia and to the lands to the east, which must have resulted with the Karaman Plain becoming an integral part of the wider regional trade networks through time. This is best manifested with ancient settlements clustering around the main land routes. We should also note here that Karaman was well known for its sheep, wool and textile industry especially during the Roman and later periods, but this may have been the case since the earliest periods of human habitation in the area (Strabo, Geography, 12.6.1; Henty 1985: 54-56; Breytenbach and Zimmermann 2018: 33-59).

## CONCLUSION

The Taşeli-Karaman Archaeological Project, which is co-directed by Tefik Emre Şerifoğlu and Naoise Mac Sweeney, was initiated in 2017 as a continuation of the Lower Göksu Archaeological Salvage Survey Project, with the aim of studying the entirety of the Göksu Basin in its wider geographical region and to better understand the nature of the cultural and socio-economic connections and interactions between the coastal areas to the south and the southern edge of the Central Anatolian Plateau to the north. The first two seasons were devoted to general investigations at various parts of the project area from the coast to the plateau, visiting already known sites and trying to understand the natural and cultural landscape surrounding them. Therefore, intensive surveys were not conducted, and we only systematically walked on and around chosen sites to observe and study the cultural material on the surface and to acquire a better understanding of the landscape in which these sites are situated.

Although we planned to have two field seasons, one focusing on the Karaman Plain and one focusing on the Göksu Valley in 2018, this could not be achieved as none of the non-Turkish citizen team members could join us because the permit procedures could not be completed by the relevant authorities on time. Therefore, the Karaman fieldwork season had to be kept shorter than planned and the Göksu Valley season had to be cancelled all together. However, the very short season focusing on the Karaman Plain was still relatively successful and produced valuable data which helped us better understand the cultural landscape and the cultural history of the area and decide on priorities for future research.

To achieve the main goal of the Taşeli-Karaman Archaeological Project, which is to study the Göksu River Basin in its wider regional context, our team will continue conducting

fieldwork in the region in 2019, mainly focusing on the Ermenek River Basin and the parts of the Karaman Plain in between the Taurus Range and the Karaman city centre. Besides visits to archaeological sites for general documentation, our team will conduct intensive surveys on and around a number of sites that we have already documented in 2017 and 2018, and study the cultural material from these sites in further detail. We also hope to deepen our research on subjects including change and continuity of settlement patterns, networks of routes and communications across the Taşeli Peninsula and the Karaman Plain, and various forms of connections and interactions with the wider Eastern Mediterranean Region that evolved through time.

#### ACKNOWLEDGEMENTS

The 2018 field season of the Taşeli-Karaman Archaeological Project was conducted with the generous support of the Gerald Avery Wainwright Fund. We are thankful to the University of Leicester and to Bitlis Eren University for their ongoing institutional support, and grateful to the General Directorate of Cultural Assets and Museums for issuing the permit that was necessary to conduct our 2018 season.

#### BIBLIOGRAPHY

- Aşkın, E., M. Kurt, M. Alkan, H. Körsulu and H.E. Ergürer, 2016 — Archaeological Surveys on Ancient Settlements and Settlement Pattern in the Province of and the Mut District of Mersin Province in 2015. *ANMED* 14: 327-332.
- Bahar, H., 1999 — Demirçagında Konya ve Çevresi. Konya: Selçuk Üniversitesi Vakfı Axillary.
- Bahar, H. and Ö. Koçak, 2004 — Eskiçağ Konya Araştırmaları 2 (Neolitik Çağ'dan Roma Dönemi Sonuna Kadar). Konya: Kömen Yayınları.
- Bahar, H., 2004 — Konya-Karaman Bölgesi Yüzey Araştırmaları 2002. *Araştırma Sonuçları Toplantısı* 21(1): 203-215.
- Bahar, H., 2005 — Konya ve Karaman İlleri Yüzey Araştırması 2003. *Araştırma Sonuçları Toplantısı* 22(1): 341-354.
- Bahar, H., 2006 — Konya-Karaman İlleri ve İlçeleri 2004 Yılı Yüzey Araştırmaları. *Araştırma Sonuçları Toplantısı* 23(1): 95-106.
- Bahar, H., 2008 — Konya-Karaman İlleri ve İlçeleri Yüzey Araştırması 2006. *Araştırma Sonuçları Toplantısı* 25(1): 235-254.
- Bahar, H., 2011 — Konya ve Karaman İlleri ve İlçeleri Yüzey Araştırması 2009. *Araştırma Sonuçları Toplantısı* 28(2): 303-320.
- Bahar, H. and H.G. Küçükbezci, 2012 — 2010 Yılı Konya ile Karaman İlleri ve İlçeleri Arkeolojik Yüzey Araştırması 2010. *Araştırma Sonuçları Toplantısı* 29(1): 97-116.
- Bahar, H., 2014 — Konya-Karaman İlleri ve İlçeleri Arkeolojik Yüzey Araştırmaları 2012. *Araştırma Sonuçları Toplantısı* 31(2): 256-271.
- Baird, D., 2012 — The Late Epipaleolithic, Neolithic and Chalcolithic of the Anatolian Plateau, 13,000-4000 BC. In: D.T. Potts (ed.), *A Companion to the Archaeology of the Ancient Near East*, vol. I. Blackwell Publishing: 431-446.
- Breytenbach, C. and C. Zimmermann, 2018 — Early Christianity in Lycaonia and Adjacent Areas, From Paul to Amphilochius of Iconium. Leiden and Boston: Brill.
- Callander, T., 1906 — Explorations in Lycaonia and Isauria 1904. In: W.M. Ramsay (ed.), *Studies in the History and Art of the Eastern Roman Provinces*. University of Aberdeen: 157-181.

- Davis, E.J., 1879 — Life in Asiatic Turkey. A Journal of Travel in Cilicia (Pedia and Trach(ea), Isauria and Parts of Lycaonia and Cappadocia. London: Edward Stanford.
- Eyice, S., 1971 — Karadağ (Binbirkilise) ve Karaman Çevresinde Arkeolojik İncelemeler – Recherches archéologiques à Karadağ (Binbirkilise) et dans la région de Karaman. İstanbul: İstanbul Üniversitesi Edebiyat Fakültesi.
- Fairbairn, A.S., E. Jenkins, D. Baird and G. Jacobsen, 2014 — 9th Millennium Plant Subsistence in The Central Anatolian Highlands: New Evidence from Pınarbaşı, Karaman Province, Central Anatolia. *Journal of Archaeological Science* 41: 801-812.
- French, D., 1962 — Excavation at Can Hasan: First Preliminary Report, 1961. *Anatolian Studies* 12: 27-40.
- French, D., 1964 — Excavation at Can Hasan: Third Preliminary Report, 1963. *Anatolian Studies* 14: 125-137.
- French, D., 1967 — Excavation at Can Hasan, 1966: Sixth Preliminary Report. *Anatolian Studies* 17: 165-178.
- French, D., 1968 — Excavation at Can Hasan, 1967: Seventh Preliminary Report. *Anatolian Studies* 17: 45-53.
- French, D.H., 1998 — Canhasan Sites 1, Canhasan 1: Stratigraphy and Structures. London: The British Institute at Ankara.
- French, D.H., 2005 — Canhasan Sites 2, Canhasan 1: The Pottery. London: The British Institute at Ankara.
- French, D.H., 2010 — Canhasan Sites 3, Canhasan 1: The Small Finds. London: The British Institute at Ankara.
- Güneri, S., 1989 — Orta Anadolu Höyükleri. Karaman-Ereğli Araştırmaları. *Türk Arkeoloji Dergisi* 28: 97-144.
- Hamilton, W.J., 1842 — Researches in Asia Minor, Pontus and Armenia II. London: John Murray.
- Hendy, M.F., 1985 — Studies in the Byzantine Monetary Economy c.300-1450. Cambridge: Cambridge University Press.
- Hogarth, D.G., 1890 — Notes in Phrygia Paroreus and Lycaonica. *The Journal of Hellenistic Studies* 11: 151-166.
- Kamış, Y., 2018 — Surveys at Eminler Höyük in Karaman: Preliminary Results. *ANMED* 16: 200-207.
- Kurt, M., 2011 — Antik Çağda Karaman (Laranda) ve Yakın Çevresi: Tarihi Coğrafya-Yerleşimler-Kalıntılar-Buluntular. Konya: Çizgi Kitabevi.
- Kurt, M., 2012 — Karaman Çevresindeki Kaya Yerleşim Sahalarına Turizm Açısından Geniş Bir Bakış. *Uluslararası Sosyal ve Ekonomik Bilimler Dergisi* 2(2): 95-102.
- Küçükbezci, H.G., 2012 — Konya-Karaman Bölgesi Kalkolitik ve Erken Tunç Çağ Çanak-Çömlek Kültürü. *Karadeniz* 13: 63-95.
- Leake, W.M., 1824 — Journal of a Tour in Asia Minor, with Comparative Remarks on the Ancient and Modern Geography of that Country. London: John Murray.
- Mellaart, J., 1954 — Preliminary Report on a Survey of Pre-Classical Remains in Southern Turkey. *Anatolian Studies* 4: 175-240.
- Mellaart, J., 1955 — Iron Age Pottery from Southern Anatolia. *Belleten* 19(74): 115-136.
- Mellaart, J., 1958 — Second Millennium Pottery from the Konya Plain and Neighbourhood. *Belleten* 22(87): 311-345.
- Mellaart, J., 1961 — Early Cultures of the South Anatolian Plateau. *Anatolian Studies* 11: 159-184.
- Mellaart, J., 1963 — Early Cultures of the South Anatolian Plateau, II: The Late Chalcolithic and Early Bronze Ages in the Konya Plain. *Anatolian Studies* 13: 199-236.
- Ramsay, W.M., 1909 — Preliminary Report to the Wilson Trustees on Explorations in Phrygia and Lycaonica. In: W.M. Ramsay (ed.), Studies in the History and Art of the Eastern Roman Provinces. University of Aberdeen: 231-278.
- Ramsay, W.M., and G.L. Bell, 2008 — The Thousand and One Churches; with a New Foreword by Robert G. Ousterhout and Mark P.C. Jackson. Philadelphia: The University of Pennsylvania.
- Şerifoğlu, T.E., 2017 — Lower Göksu Archaeological Salvage Survey Project: The Results of the 2015-2016 Seasons. In: S.R. Steadman and G. McMahon (eds.), The Archaeology of Anatolia, Volume II: Recent Discoveries (2015-2016). Cambridge Scholars Press: 279-301.



- Şerifoğlu, T.E., N. Mac Sweeney, and C. Colantoni, 2014 — The Lower Göksu Archaeological Salvage Survey Project: Preliminary Results of the First Season. *Anatolica* 40: 71-92.
- Şerifoğlu, T.E., N. Mac Sweeney, and C. Colantoni, 2015a — Lower Göksu Archaeological Salvage Survey Project: The Second Season. *Anatolica* 41: 177-188.
- Şerifoğlu, T.E., N. Mac Sweeney and C. Colantoni, 2015b — Lower Göksu Archaeological Salvage Survey Project: The Results of the 2013-2014 Seasons. In: S.R. Steadman and G. McMahon (eds.), *The Archaeology of Anatolia, Recent Discoveries (2011-2014)*. Cambridge Scholars Press: 228-254.
- Şerifoğlu, T.E., N. Mac Sweeney, A. Collar, C. Colantoni, and S. Eve, 2016 — Lower Göksu Archaeological Salvage Survey Project: The Third Season. *Anatolica* 42: 11-27.
- Şerifoğlu, T.E., N. Mac Sweeney and C. Colantoni, 2017 — Lower Göksu Archaeological Salvage Survey Project: The Fourth Season. *Anatolica* 43: 103-115.
- Şerifoğlu, T.E., N. Mac Sweeney, and S. Eve, 2018 — Lower Göksu Archaeological Salvage Survey Project, The Fifth Season. *Anatolica* 44: 165-177.
- Sterrett, J.R.S., 1888 — The Wolfe Expedition to Asia Minor, Papers of the American School of Classical Studies at Athens, III. Boston: Damrell and Upham.
- Strabo, 1928 — The Geography of Strabo V. With an English Translation by Horace Leonard Jones. London and Cambridge: William Heinemann and Harvard University Press.
- Watkins, T., 1995 — Pınarbaşı Excavation and Çatalhöyük Regional Survey. *Anatolian Studies* 45: 9-13.